BY ORDER OF THE COMMANDER
AIR FORCE RESERVE COMMAND

AIR FORCE INSTRUCTION 21-101

AIR FORCE RESERVE COMMAND
Supplement 1

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Maintenance

AEROSPACE EQUIPMENT MAINTENANCE MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(SMSgt Joel Coppolino)
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The OPR for this supplement is HQ AFRC/LGQM (SMSgt Joel Coppolino). This supplement implements AFPD 21-1, *Air Force Maintenance Management*, and extends the guidance of Air Force Instruction 21-101, *Aerospace Maintenance Management*, dated 1 October 2002. Additionally, this instruction supports the Chief of Staff of the Air Force's new Combat Wing Organization. This supplement describes Air Force Reserve Command procedures to be used in conjunction with the basic instruction. This AFRC supplement is applicable to Active Associate Units assigned to AFRC.

SUMMARY OF REVISIONS

Air Force Reserve Command has added additional guidance into the structure of this instruction. This revision incorporates changes and additions to the entire document and all areas affected. The entire document must be completely reviewed. Direct all policy questions to HQ AFRC/LGQMP, 155 Richard Ray Blvd, Robins AFB, GA 31098, DSN 497-1651.

1.6.1.1. Supervisory involvement and good maintenance discipline are key factors in preventing mishaps and ensuring safe reliable aircraft and equipment to support the mission. Technical orders, checklists, job guides, Air Force, and command instructions will be followed to ensure personnel safety and aircraft and equipment integrity. Maintenance leadership at all levels will review their roles and responsibilities in this instruction and ensure strict compliance with established written policies and procedures in their units.

1.8.4.1. AFRC/LGQM is the office of primary responsibility.

1.9. **Modification Management.** Units submitting modification proposals comply with the requirements of this instruction and AFRCI 10-601.

1.16. **Waiver Request.** The unit MXG/CC is responsible for all waiver requests or proposed changes to this instruction. The MXG/CC has the responsibility to staff, evaluate, and coordinate all waiver requests. Send waiver or change requests to HQ AFRC/LGQ through the appropriate NAF/LG. Unit requests for

waivers must contain justification why the unit cannot comply with the existing guidance. Procedures for units to submit recommended changes to this instruction are as follows (format see **Attachment 10 (Added)**):

1.16.1. (Added) MXG/CC forwards the proposal to the appropriate NAF/LG or their designated representatives.

1.16.2. (Added) NAF/LG makes a recommendation if the proposal is significant enough to warrant immediate consideration or can be incorporated at the next update of this supplement.

1.16.3. (Added) NAF/LG forwards proposal and their recommendation to HQ AFRC/LGQ for consideration.

1.16.4. (Added) AFRC/LGQ coordinates command supplement with HQ USAF/ILMM.

1.19. **Maintenance Training.** AFRC personnel (i.e. Air Reserve Technicians (ART), Air Guard/ Reserves (AGR), Traditional Reservists (TR) and Civilians) accomplishing and performing aircraft maintenance and related duties will have their maintenance training and qualifications documented according to AFI 36-2201 and local directives.

1.19.2. Personnel not possessing aircraft maintenance AFSCs (e.g. AGE, Training, Analysis, Admin, etc.) will not be trained or perform aircraft maintenance duties. Exceptions: Units with external tank build-up tasking may train and utilize personnel not possessing aircraft maintenance AFSCs, and other duties as authorized in AFI 21-201.

1.21.5.3. (Added) Maintenance personnel are sometimes required to fly on missions specified in operations orders/plans to recover and prepare the aircraft at en route stops. Aircraft maintenance personnel in-flight duties may include troubleshooting, fault analysis and isolation, airborne systems adjustment and assessment of system performance to minimize ground time. Maintenance personnel may minimize en route downtime by identifying and researching parts, special tools, and specialist support requirements prior to landing. When in-flight duties allow a rest period during the flight, such rest periods are not considered as part of the 12-hour duty period. Aircraft maintenance personnel must be afforded consideration for needed/mandatory rest upon reaching a final destination point. If the 12 hours duty period has expired by landing time, maintenance personnel are not required to participate in the recovery of their aircraft unless mission requirements dictate the immediate turnaround of the aircraft.

1.22. **Air Force Munitions Policy.** AFRC munitions policy is in AFI 21-201/AFRC Supplement.

1.27. **Unit Committed Munitions List (UCML), Test/Training Munitions List (TTML).** A unit appendix to the UCML is developed which contains PM and SM configurations to support load crew training, munitions mobility training and sortie generation operations. Configurations are consistent with aircraft designed operational capability (DOC) statement and operational tasking. The appendix is jointly developed between the weapons standardization section and the operations weapons and tactics flight, approved by the MXG/CC and OG/CC.

2.3.1.27. AFRC/LGM is the approving official for all 00-25-107 requests.

2.3.1.79. QA is the OPR for units tasked to maintain a hot refueling capability.

2.5.23. Air Reserve Technician (ART) flight chiefs are classified according to criteria established by the Office of Personnel Management (OPM) and AFRC/DPC. (Reference AFRCI 36-501)

2.5.57. (Added) Participates in the development and updating of the units QAP.

2.6.33.1. (Added) CUT is initially documented by the supervisor on an AF Form 797, Job Qualification Standard Continuation/Command JQS. Annotate the form with the words "CROSS UTILIZATION TRAINING" in the block at the bottom of the form and file in the member's AF Form 623, Individual Training Record. Track recurring items in MIS.

2.6.55. (Added) Follow established TODO procedures and ensure configuration control of all applicable software is both current (latest date) and correct for the application and use for which it is intended. Ensure technicians check Automated Computer Program Identification Number System (ACPINS) at least weekly for software updates for assigned systems. A software sub-account will be established, allowing the shop/section access to the ACPINS. Software configuration control will be maintained IN ACCORDANCE WITH TO 00-5-16, Manual USAF Automated Computer Program Identification Number System (ACPINS), and TO 00-5-17, Users Manual USAF Computer Program Identification Numbering (CPINS) System.

2.9.13. For ER requirements see **Table 18.1.**

2.10. (Added) **Administrative Responsibilities.** Serves as the focal point for correspondence and reporting. Administration controls procedures as directed and ensures sound administrative management systems are established.

2.10.1. (Added) Ensures a downward flow of administrative information from the Information System Flight (ISF) and other administrative agencies.

2.10.2. (Added) Ensures an internal/external distribution system is established and used for distribution of documents to affected activities. Establishes and maintains a distribution box for each affected activity and ensures distribution of correspondence, reports, and publications.

2.10.3. (Added) Coordinates distribution requirements with the appropriate chief of ISF.

2.10.4. (Added) Keeps an effective correspondence and suspense file and maintains according to AFMAN 37-139.

2.10.5. (Added) Ensures the publication and distribution of OIs, schedules, directives, procedures, reports, and instructions.

2.10.6. (Added) Evaluates records management programs and reports weak programs. Assists affected activities in establishing administrative offices; records and performs as the Functional Area Records Manager (FARM).

2.10.7. (Added) Prepares orders.

2.10.8. (Added) Ensures administrative personnel assigned to affected activities are trained to perform administrative functions.

2.10.9. (Added) Ensures effective control of publications and blank forms.

2.10.10. (Added) Performs as the customer account representative (CAR) according to AFI 37-161, *Distribution Management*. Spot-checks and inventories functional publication libraries. Trains sub-account representatives (SAR). Ensures publication sets are authorized before establishing requirements for set contents. Maintains functional publications library as required.

2.10.11. (Added) Assists the affected activities on proper administrative security procedures.

2.10.12. (Added) Is the focal point for enlisted performance reports (EPR)/officer performance reports (OPR) and ensures timely submission.

2.10.13. (Added) Establishes a program ensuring applicable operating instructions (OI) are reviewed IN ACCORDANCE WITH paragraph 1.12. assigns OI numbers, coordinates with affected activities, and maintains record copies.

2.10.14. (Added) Performs staff assistance visits to affected activities.

2.10.15. (Added) Oversees and coordinates the in processing of newly assigned personnel.

2.10.16. (Added) Ensures timely input and retrieval of personnel information and reports, both military and civilian

3.3.10. MAJCOM OPR is AFRC/LGQR.

3.9. **Aircraft Section.** AMFs possessing 18 or more aircraft will have 2 aircraft sections.

3.9.2. ART crew chief positions are established in accordance with the provisions of AFRCI 36-501, paragraph 5.4. Employees are selected to fill ART crew chief positions in accordance with the Office of Personnel Management's (OPM) X-118C**,** *Qualification Standards for Federal Wage System (FWS) Positions,* and the qualifications criteria set forth in Federal Personnel Manual (FPM) Supplement 930-71 for ART positions.

3.10.2.5. (Added) Maintains Precision Attack Targeting System (PATS) pods.

3.10.2.5.1. (Added) Uploads and downloads PATS pods on aircraft.

3.10.2.5.2. (Added) Removes and replaces Line Replaceable Units (LRUs).

3.10.2.5.3. (Added) Performs operational and BIT tests.

3.10.2.5.4. (Added) Maintains inventory control of pods and associated equipment.

3.10.3.1. A-10, F-16 Units ECM AME, and ECM pods are inventoried and maintained by the EWS according to Chapter 4.

3.11. **Weapons Section.** Applicable paragraphs for rescue units are paragraphs 3.11.2, 3.11.4, 3.11.5 and 3.12.

3.11.1.19. Supervisors may document their review of prerequisite training.

3.11.1.21. Weapons Sections may opt to document inspections in the MIS.

3.11.4.8. Does not apply to rescue units.

3.11.5.3. Expeditors need not track accountability of stored AME if being tracked by the weapons section or armament flight chief.

3.11.5.12. Dispatch control logs (AF Form 2430s) if used, may be combined between shifts.

3.12. **MH-53J/M and HH-60 Units.** Applies to rescue C130 units when aligned with rescue HH60 units.

3.12.1. Maintenance teams consist of two or more qualified individuals. Flight engineers or Aerial gunners will be task qualified IN ACCORDANCE WITH chapter 16 of this instruction.

3.17. **Dedicated Supply Support.** MSL may perform some or all of these duties as directed by the MXG/CC.

4.3.1. Air Reserve Technician (ART) flight chiefs are classified according to criteria established by the Office of Personnel Management (OPM) and AFRC/DPC. (Reference AFRCI 36-501)

4.4.11. (Added) **(C130 and HH60 Units only)** Appoints expediters to ensure maintenance is accomplished. The expediter works directly for the production superintendent. Expediter duties are outlined in **Chapter 2**.

4.6.4.1.8.2.7. (Added) Personnel tasked to perform WRM external tank build-up regardless of AFSC receive initial training either locally by fuels systems repair personnel or by AETC Training Detachment (TD). Personnel who have prior WRM external tank training are exempt from the initial training course. Annual refresher training for WRM external fuel tank build-up is required for all personnel except AFSC 2A6X4, Aircraft Fuels System Repair. Fuel tank build-up accomplished during local exercises, deployments, or other training events may be used to satisfy the annual training requirement. Document all training using AF Form 797/MIS as appropriate.

4.7.2.15. AFRC POC is LGMS.

4.8.1. Armament flights perform on-equipment periodic phase inspections in B-52 units. Rescue units, comply with all requirements as outlined in this section except for paragraphs 4.8.3.1, 4.8.3.7, 4.8.3.8, 4.8.4.5, 4.8.4.8, 4.8.4.9, and 4.8.5.4. Additional requirements are contained in chapters 2, 3, and 16.

4.8.3.7. Dummy test rounds does not refer to 20mm and 30mm rounds for testing aircraft gun systems.

4.8.3.16. (Added) Ensures personnel doing weapons related tasks receive initial training and recurring training annually.

4.8.4.1. Munitions controllers or PS&D functions may schedule inspections, TCTOs and time changes.

4.8.4.2. Armament Flights will perform on equipment periodic phase inspections in B-52 units.

4.8.4.7. The Wing Weapons Manager coordinates with the Armament Flight Chief to determine on-equipment tasks.

4.8.4.11. PS&D functions may update rounds fired from the AF Form 2434 or locally developed form in the MIS.

4.8.4.13. The armament flight chief coordinates with the weapons manager to determine the armament system portion of aircraft inspections.

4.8.5.1. Rescue Units Weapons Section account for and control AME.

4.8.5.2. Maintain F-2 type trailers for mobility (if applicable). Weapons section provides manpower support for weapons section assigned F-2 trailer maintenance.

4.8.6.8. Documents may be kept electronically.

4.9.2.9. TODO establish procedures, see Chapter 10.

4.9.10.1. Communication-Navigation Section is authorized to perform on-equipment maintenance.

4.9.12.1. Guidance and Control Systems Section is authorized to perform on-equipment maintenance.

4.9.14.1. Sensor Section is authorized to perform on-equipment maintenance.

4.9.16.1. As determined locally, maintains inventory control and storage of EWS Alternate Mission Equipment (AME).

4.9.16.7. End-to-End testing using the USM-464 is accomplished by the AMXS

4.9.16.9. The AMXS performs the electronic warfare portion of aircraft phase inspections.

4.10.3.9. See AFRC Supplement to AFI 21-101, Chapter 18.

4.10.3.12. Include QA in the coordination process.

4.11.3.1. Flight control rigging for helicopters is accomplished by the AMF.

4.13.1. Propulsion Flight is authorized to perform on-equipment maintenance.

4.13.2.24. (Added) Coordinates with production superintendent and engine management (EM) section prior to engine changes.

4.13.4. If a supply person is assigned to the Propulsion Flight, refer to Paragraphs 4.13.5.8, 4.13.5.9 and Chapter 8 of the basic instruction for other duties.

4.14.2.7. Torque Wrench Calibration Site. Units listed in T.O. 00-20-14 and approved by the Air Force Metrology and Calibration (AFMETCAL) Det 1 as a Limited User/Owner Torque Calibration/Repair Capability will ensure torque devices are calibrated per any applicable Calibration and Measurement Summary (CMS) or T.O. 33K-1-100-1/2.

4.14.2.7.1. (Added) Only approved Torque Calibration Standards or equivalent equipment meeting accuracy requirements as per calibration procedures will be used to certify torque devices. An AFMETCAL approved PMEL must calibrate torque Calibration Standards.

4.14.2.7.2. (Added) Only torque devices owned by the organization will be calibrated on this site. Torque devices beyond the capability of the organization to calibrate will be sent to the Unit's supporting PMEL and will be included as part of their PMEL TMDE inventory.

4.14.2.7.3. (Added) Ensure all personnel performing torque calibrations have been properly trained. At a minimum, an individual must have had training either by possessing a 2P0X1 AFSC, have attended Torque Wrench Calibration Course # E2RST2P031 002 or have successfully participated in an On-the-Job training program provided by a technician with the above qualifications.

4.14.2.7.4. (Added) Maintain a Certification Roster of all qualified personnel performing torque calibrations.

4.14.2.7.5. Ensure there is a capability (Chart Recorder) to monitor and record the environment in the calibration area. The environment must be maintained at a temperature of 73°F ± 9°F with Relative Humidity between 15 and 70% RH during the 24 hour period from the time torque devices are introduced into the calibration area until the calibration procedure is completed. Environmental records must be kept on file for a minimum of 6 months.

4.14.2.7.6. (Added) Ensure a complete inventory of all torque devices calibrated at unit level is maintained current, and it is made available on request by AFMETCAL Det 1. This inventory should be kept in an automated format to facility scheduling and data collection.

4.14.2.7.7. (Added) The Torque Calibration Site supervisor will develop an internal Quality Program (QP) specifically tailored to the torque calibration function. At a minimum, establish a process to randomly select 3% of the scheduled monthly calibrations (but not less than two (2) certified torque devices per month) for a Quality Review (QR) and every six months accomplish a Process Review (PR) on each qualified technician. The QR is an internal inspection where a separate qualified technician reaccomplishes the calibration on a recently certified torque device prior to it leaving the calibration area and returning it to the customer. The PR is an internal review where a separate qualified technician observes the overall process in action; including training/qualifications, documentation, calibration standard status,

and technical data. The supervisor will manage the internal Quality Program and maintain a log/record of all QRs/PRs. Supervision shall initial or sign the log/record when findings result in failure and initiate corrective action as necessary.

4.14.2.7.8. (Added) Provide maintenance data collection (MDC), if requested, in a format determined by AFMETCAL Det 1.

4.14.2.7.9. (Added) Participate in AFMETCAL Det 1's Proficiency Testing. Testing will consist of performing measurements on an artifact provided by the Air Force Primary Standards Laboratory (AFPSL) by applying the same calibration methods used to calibrate their own torque devices. Frequency of proficiency testing at each site will be determined at the discretion of AFMETCAL Det 1 (from zero (0) to two (2) times annually). AFMETCAL Det 1 will notify the units in advance and will provide specific instructions as to how to conduct the testing, report results and shipping of the artifact.

4.14.2.7.10. (Added) Torque Calibration Sites will be subject to random evaluations by AFMETCAL Det 1 and HQ AFRC/LGM.

5.5.1.1.9. (Added) TO 00-25-257, Engine Trending and Diagnostic, USAF Engines.

5.5.1.1.10. (Added) See paragraph **18.30. (Added)** for additional Engine Management Guidance.

5.6. **Maintenance Supply Liaison (MSL) Section.** Refer to basic paragraph 3.17 for additional responsibilities.

5.6.2.8. MSL develops local checklist to perform surveillance visits.

5.8.1. Additionally, MDSA section is responsible for maintaining, monitoring, and studying current and historical data found in the various maintenance information systems (MIS). Analyzing data and maintaining MISs are two of the major tasks of Analysis. They are charged with monitoring databases and identifying significant variations from the norm. Analysis is the primary agency for all retrieval systems used by maintenance. Analysis is responsible for preparing and processing all background and batch retrievals. CAMS units will use the Query Language Processor (QLP) Retrieval System or Interactive Query Utility (IQU) Retrieval System. G081 units will use the FOCUS retrieval system. Analysis may elect to provide the capability for selected users to write and run their own retrievals.

5.8.2. For purposes of this chapter management information systems and automated maintenance systems refer only to CAMS/G081, REMIS, and Global Decision Support System (GDSS)/ AMC History System (AHS) as applicable.

5.8.4. Analyst will attend a training detachment or locally developed familiarization course within 6 months of assignment.

5.8.19.3. Deployment Package. Each unit's maintenance analysis section will develop an analysis deployment package. The package will identify the equipment and supplies required for each type of deployment commitment (e.g. bare base operation, limited communications). Consider the following items when developing a deployment package:

5.8.19.3.1. (Added) Identify maintenance information system equipment (hardware) needed to capture maintenance data.

5.8.19.3.2. (Added) Identify software requirements (word processing, spreadsheet, database, communication package, etc.).

5.8.19.3.3. (Added) Take into consideration the length of the deployment or operation.

5.8.19.3.4. (Added) List key points of contact at base level, MAJCOM, deployed headquarters, and deployed units.

5.8.19.3.5. (Added) Be prepared for system downtime by creating manual backup procedures in advance. All maintenance and functional subsystem managers need to know manual back-up procedures if G081 is not available and be able to accurately capture all transactions required to be input into G081 by T.O. 00-20 series.

5.8.19.3.6. (Added) Arrange LAN connectivity for deployed computers. If LAN connectivity is not possible, arrange TCP/IP service to the Internet. The bottom line is to get connectivity at all costs. Deployed maintenance documentation is the most valuable form of data we can collect and therefore is worth the effort and cost.

5.8.19.3.7. (Added) Coordinate dial-up networking or dedicated circuits (phone/data line) established at the deployment site.

5.8.19.3.8. (Added) Have an adequate number of PC or Laptop (preferred) computers to support the anticipated data entry requirements at the deployed site. Computers must be equipped with an internal/ external modem, LAN card, and CD-ROM devices. Ensure computers have been properly configured with RUMBA software (G081 only) prior to deployment. Software needs to be pre-configured before departure from home station with standard DNS name of COMM1.OKC.DISA.MIL.

5.8.19.3.9. (Added) Blank copies (either in printed form or electronic media) of needed input screens available. G081 Debrief (screen 9050 and 9020), Status (screen 9018 and 9026), MDC (screen 9099), blank aircraft forms, and maintenance data collection forms (i.e. AFTO Forms 349, etc). Data collection forms (AFTO Form 349) need to be accessible to deployed maintenance personnel.

5.8.19.3.10. (Added) Deployed analysts/G081 managers need to have the capability to reset passwords, change L-terms, and perform routine administrative functions. This capability is necessary to ensure proper support to deployed maintenance personnel. The on-site G081 Manager must annotate and resolve all G081 system problems pertaining to Aircraft Status Reporting and MDC Reporting and report problems beyond their capabilities to home station and HQ AFRC/LGQRI.

5.8.19.5. (Added) (MAF Units) MDSA is the unit point of contact, where applicable for calculating Logistics Departure Reliability. Logistics departure reliability represents the percentage of departures that did not delay for logistics reasons within the unit's control.

5.8.19.5.1. (Added) (MAF Units) For en route locations, consider all AMC missions (using the mission ID criteria above) departing these locations regardless of the launch agency. To track Logistics Departure Reliability, use AHS Mission-Detail Logistics standard report. This report will be processed on the 5th duty day of the current month for the previous month's departures.

5.8.19.5.2. (Added) (MAF Units) It is necessary to exclude local training missions, because the unit has discretion over their scheduled trainers. The exception is when the local training mission is coordinated with a real world mission (i.e. local training that performs a refuel on an aircraft performing a mission.). Count mission IDs that begin with an A, B, D, F, G, H, J, M, O, P, Q, T, V, X, Y, Z, 6, or 8. Exclude training missions except for Mission IDs with an E or U in the second position, and a P9 in the sixth and seventh positions. These are refuel-training missions with an external customer.

5.8.19.5.3. (Added) (MAF Units) The logistics delay codes that count against this rate are X123, X126, X127, X128, X129, all X700's, all X800's, and all X900's. Do not count X904 delays (TACC-directed delay to support a MICAP, insufficient time given) in unit computations.

5.8.19.5.4. (Added) (MAF Units) A home station departure is defined as all first leg missions of unit owned aircraft departing home station. An en route departure is defined as any second or subsequent leg of a mission. Worldwide departures include all missions.

5.8.20.1.1. (Added) Changes or Additions. Host and tenant units submit CAMS-oriented AF Form 3215, **Computer Systems Requirement Document (CSRD),** documents to the host DBMs, who are base OPRs for local evaluation. Submit CSRDs to request changes capabilities to CAMS, IN ACCORDANCE WITH AFI 133-103, *Requirements Development and Processing,* AFI 133-104, *Base-Level Planning and Implementation*, and AFCSM 21-556V2. Send the CSRD to HQ AFRC/LGQRI for review and further coordination. For G081, develop and maintain an OI or other written local policy for managing G081. As a minimum, it covers unique unit requirements and contingency plans for supporting critical areas during extended computer downtime.

5.8.20.1.2. (Added) Assist agencies within the maintenance complex to better utilize G081.

5.8.20.1.3. (Added) Maintains an up-to-date master copy (electronic or paper) of AFRCI 21-112, G081 System Management Procedures. Brief all affected G081 users on changes.

5.8.20.1.4. (Added) Limit user access to authorized personnel only to preserve integrity of the database.

5.8.20.1.5. Added) Maintains an accurate G081 listing of work centers and L-terms.

5.8.20.1.6. (Added) Acting as approval agency for the MXG/CC or MOS/CC on G081 program 8033 (off-base messaging) rights.

5.8.20.1.7. (Added) Ensuring all G081 users are notified of scheduled downtime for preventive maintenance.

5.8.20.1.8. (Added) Act as the primary POC for coordinating and resolving G081 problems. Coordinate with the MXG/CC or MOS/CC and applicable staff organizations on matters concerning interface with associated systems at base level, as directed by HQ AFRC/LGQ/LGX.

5.8.20.1.9. (Added) Ensuring G081 users are aware of problems and corrective actions relating to G081.

5.8.20.1.10. (Added) Coordinates all connectivity problems through the local firewall with the LOGNET contractor for corrective action through the BNCC.

5.8.20.1.11. (Added) Control G081 Access. Ensure each local functional user has a current DISA Form 41 (System Authorization Access Request) on file. Establish and maintain user-IDs for each local functional user. See G081 User ID/Password Management Guide for instructions.

5.8.20.1.12. (Added) Maintains the integrity of the G081 database by ensuring users can access only required programs (8000-9000 series) and batch jobs (67000 series). Instructions for building batch jobs and granting access are obtained from program 9051 will be reviewed annually.

5.8.20.1.13. (Added) Act as the central point within the maintenance complex for all G081 data retrieval programs, including FOCUS, and information management system (IMS) batch (67000 series). Controls batch/background runs to ensure maximum benefit with least interruption to system response time.

5.8.20.1.14. (Added) Coordinates G081 program changes and additions with all functional subsystem managers.

5.8.20.1.15. (Added) Monitors and control program 9038 (Form 529, System Deficiency Report) with educated voting and submissions. Do this by ensuring all affected agencies are aware of proposed program changes, and affected agencies submit program 9038 requests through G081 managers.

5.8.20.1.16. (Added) Assign local work center codes and mnemonics within the guidelines of TO 00-20-2 and AFRCI 21-112.

5.8.20.1.17. (Added) (C-5 Units only) Accepting C-5 MADAR flight data tapes and downloading flight data tape information to the Tinker AFB database.

5.8.20.1.17.1. (Added) Work with the unit's MADAR Monitor to ensure sufficient MADAR program tapes, data tapes, and spares are on hand.

5.8.20.1.17.2. (Added) Provides current C-5 MADAR MDR program tapes.

5.8.20.1.18. (Added) Run G081 batch product 67041 and check it for accuracy quarterly. Maintain a signed and dated log of this process along with the most recent 67041 in a G081 User Log.

5.8.20.1.19. (Added) Coordinates resolution of G081 connectivity problems and RUMBA software installation with the Work Group Manager (WGM) when not available Network Control Center (NCC).

5.8.20.1.20. (Added) Reconcile official aircraft departure data contained in GDSS/AHS Mission Details Logistic Report using either manually recorded departure data or a locally developed database. Perform these checks at least weekly. Use AFRCI 10-202 and applicable -06s as a guide for proper documentation of key items such as Delay code, Delay time, Delay narrative, and the proper annotation of WUC/RefDes on logistics delays. Delay code and WUC must match in Remarks Section. Ensuring accuracy of these essential items is the one aspect of the DIT the Analyst will perform them self. Coordinate changes via the MOC and AFRC IN ACCORDANCE WITH AFRCI 10-202.

5.8.20.2. The Field Assistance Office (FAO) at Tinker AFB, Oklahoma is the Air Mobility Command agency responsible for problems beyond the scope of local G081 management capability. If the problem relates to policy, contact applicable NAF analyst for coordination with HQ AMC/LGMQA. If a suggestion to improve the program or a new program required submit a request with program 9038 (OC-ALC Form 529, System Deficiency Report).

5.8.20.12. MXG/CC determines the frequency of the DIT/DIG meeting. The DIT Objective is to educate managers and technicians concerning proper documentation practices. This program is not a scorecard used to judge any unit or individual. The goal of this policy is to identify the source of documentation errors so the group can address them to documenting personnel in an attempt to eliminate any errors from occurring in the future. The desired outcome is to document all maintenance actions and improve accuracy and confidence thereby, making the Management Information Systems (MIS) a more viable tool for logistics managers.

5.8.20.12.4. DIT Reporting. Report as depicted in Table 1.1 and 1.2 as a part of the monthly 9203 report. Only those errors identified and corrected within 72-hours will be included in the corrected error category. Use G081 Program 67110 for On-Equipment Aircraft Discrepancies, G081 Program 67033 for On-Equipment (Non-Aircraft) Discrepancies, G081 Program 67175 for Off-Equipment Discrepancies, G081 Program 67147 for Status/Discrepancy Verification, G081 Program 67038 for Supply/Cannibalization Verification. To correct MDC errors found in G081 use program 9056, CAMS users use screen 54 or 907. Contact host DBM for assistance. To correct aircraft status errors found in G081 use program 9026, and to correct aircraft status errors found in CAMS use screen 337.

5.8.20.12.6. AFRC method of tracking number of errors includes the following:

5.8.20.12.6.1. (Added) JDD – Although several errors may be found on a line of JDD, count as only one error when calculating error rates. However, ensure all errors are corrected.

5.8.20.12.6.1.1. (Added) Support general jobs are not included in JDD error rate report.

5.8.20.12.6.1.2. (Added) Jobs closed with no MDC taken are not included when calculating error rate.

5.8.20.12.6.1.3. (Added) For a job to be correct WUC, HM, AT, WDC, TM and must match discrepancy narrative and corrective action.

5.8.20.12.6.2. (Added) CANN Reporting.

5.8.20.12.6.2.1. (Added) Make sure there is a "T" action taken entry for every action in the CANN log.

5.8.20.12.6.2.2. (Added) Same work unit code is on both the "T" and "U" action taken entries.

5.8.20.12.6.3. (Added) Make sure there is a "U" action for every "T" action.

5.8.20.19. Maintenance Analysis Referrals. AFRC Analyst will use AF Form 2422 when accomplishing Maintenance Analysis Referrals.

5.8.20.21. Base Repair Capability. Analysis monitors this program and provides capability rates/trends to QA, the Maintenance Operations Officer, and other maintenance managers, monthly.

5.10.2.1. (Added) Update the applicable MIS personnel subsystem when changes occur.

5.10.2.2. (Added) Ensure the UMD mirrors the authorization structure to include AFRC options and approved waivers.

5.10.2.3. (Added) Maintain a current copy of the group's UMPR and UMD to include applicable squadrons. Initiate and coordinate requests for changes to the UMD.

5.10.2.4. (Added) Request an analysis of personnel utilization from the analysis section for affected AFSCs when there is an indication that a change request results in an imbalance of manning or when an apparent imbalance already exists.

5.10.2.5. (Added) Coordinate and monitor permanent change of assignment (PCA) actions and suspense involved agencies for appropriate documentation.

5.10.3.1. (Added) Programs section identifies and coordinates group facility needs; develops and forwards documents for new or additional facilities, and evaluates efficient use of present facilities.

5.10.3.2. (Added) Is familiar with all facilities in the maintenance complex. Maintains a facility layout for each site within the maintenance complex to include, but not limited to, building identity, usable area, function that occupies the building, number of occupants, each area within the building, and peculiar power sources.

5.10.3.3. (Added) Ensures new facility requirements and large modifications resulting from mission/organizational changes or assignment of new equipment are documented and forwarded through prescribed channels. In conjunction with the affected group activity and base civil engineering, develops the project documents for major construction/modifications. Coordinates on all AF Form 332, Base Civil Engineer Work Request, and retains one copy of each for filing. Briefs the GP/CC on the status and priority of open AF Forms 332 prior to the facilities utilization board meeting. Monitors and coordinates telephone installation and relocation requests.

5.10.4.5. (Added) Maintains deployment personnel and equipment rosters. Maintaining copies of all applicable checklists required to deploy aircraft maintenance personnel and equipment.

5.10.4.6. (Added) Identifying procedures and coordinating with the GP/CC to ensure unit deployment managers (UDM):

5.10.4.7. (Added) Identifying qualified personnel to meet deployment commitments as specified in tasked UTCs.

5.10.4.8. (Added) Ensuring personnel readiness folders (PRF) are maintained for each member assigned.

5.10.4.9. (Added) Identifying equipment and material tasked by prescribed UTCs.

5.12. (Added) **Financial Management Section.** Is the resource advisor for the MXG/CC for O&M/RPA funds and is a member of the Financial Working Group/Financial Management Board.

5.12.1. (Added) Analyze past and current expenses using daily computer products. Forecast expenses. Coordinate with each cost center and assess financial needs and consolidate the budgeting requirements**.**

5.12.2. (Added) Distributes the operating budget within the group. Coordinate the dispensing of funds with the MXG/CC, managers, and other budget officials. Continuously review financial status to ensure each cost center receives equitable and necessary base-funded materials and services.

5.12.3. (Added) Monitor the status of expenses by cost center and brief unit management of unusual expenditures, which may impact the unit's financial goal for the fiscal period. Inform managers on additional expenses incurred and their causes; that is, carcass charges impact to repair cycle float.

5.12.4. (Added) Briefs unit management on the financial status of the group.

5.12.5. (Added) Work with all applicable agencies to identify and account for all O&M and RPA expenditures.

5.12.6. (Added) Serves as POC for the maintenance organization internal management control program. Performs annual vulnerability assessments and statements of assurances. Identifies areas that are at risk and develops corrective actions.

5.12.7. (Added) Prepare, develop, and submit budget documents, as required, for O&M/RPA operating funds, annual financial plan, and unfunded requirements. Instructions for building budgets are contained in AFI 65-601, volume 1, Budget Guidance and Procedures.

5.12.8. (Added) Identify and challenge pricing errors.

5.12.9. (Added) Determines if the work centers are effectively using resources and submitting requirements for new or advanced equipment for training in support of O& M/RPA programs.

5.12.10. (Added) Cross country and deployment/exercise preparation. Establish procedures to ensure availability of funds to support cross country aircraft repairs. Monitor and track costs and credits generated as a result of cross country aircraft repairs in order to ensure proper credits to the local O&M accounts and stock fund. Identify whether adequate funds are available for deployed operations. Establish a project fund management record (PFMR) and ORG/Shop codes with accounting and finance and supply at deployed locations prior to aircraft departing home station. Audit deployed operations, maintenance, and supply management reports to ensure proper credits and debits to the stock fund and the local O&M account. Train deployed personnel in the monitoring and posting of transactions to the AF Form 616, Fund Cite Authorization (FCA).

5.13. (Added) **Cost Per Flying Hour (CPFH) Manager.** The CPFH manager serves as the logistics manager for the analysis, management, and budget preparation of the unit CPFH program, which includes depot level reparable (DLR), flying consumable supplies and aviation fuel. Primary CPFH program objectives are to:

5.13.1. (Added) Prepare and submit logistics and financial requirements to support the CPFH program for the unit.

5.13.1.1. (Added) Use microcomputers and computer generated supply and budget products to analyze past expenses, current trends, and future requirements.

5.13.1.2. (Added) Prepare unit submission to HQ AFRC tasking related to the Air Force Cost Analysis Improvement Group (AFCAIG) process, which is used by HQ AFRC to develop the Command and unit's flying hour budget for Materiel Support Division (MSD), General Support Division (GSD), flying Government Purchase Card (GPC) requirements and aviation fuel.

5.13.1.3. (Added) Coordinate with functional offices relative to current maintenance actions affecting unit assigned aircraft that may impact CPFH program.

5.13.1.4. (Added) Continually track program budget expenses and coordinate with HQ AFRC/LGQP regarding recommended changes to annual CPFH funding authority.

5.13.1.5. (Added) Coordinate with unit FM as needed to realign unit CPFH flying hour funds.

5.13.2. (Added) Develop and coordinate procedures for separating CPFH funding and other unit O&M funds to ensure timely and complete visibility of CPFH program status.

5.13.3. (Added) Provide HQ AFRC/LGQP a monthly status reports of the CPFH program.

5.13.4. (Added) Track CPFH monthly execution rates and determine/report reasons for significant variance from the previous month.

5.13.5. (Added) Perform staff assistance visits to ensure functional activities are effectively managing the CPFH program in the work center. (As requested by the cost center or one time a year to each cost center).

5.13.6. (Added) Keep unit management aware of the current policies and procedures for the AFCAIG process and CPFH program management.

8.6.5. MSL assists work centers with the adjusted stock level processes.

8.7. **Repair Cycle Assets.** MSL monitors and controls progress and status of repair cycle assets for the MXG.

8.8. **Tail Number Bins (TNB).** MSL and/or the support section manage the tail number bins.

8.10. **Equipment Items.** The LSM assists equipment custodians in researching and preparing documents for gaining authorizations and ordering equipment items. When an LSM is not assigned MSL performs these functions.

8.11. **Supply Assets Requiring Functional Check, Calibration or Operational Flight Programming.**MSL obtains/prepares a list of items, including the repair section’s organization and section code, and sends the list through the Flight/CC or Flight/Section Chief and MS/SUPT to LRS’s chief inspector.

8.17. **Time Compliance Technical Order (TCTO) Kit Procedures.** MSL and/or dedicated supply support section monitors TCTO Kits.

8.17.1.5. MSL and/or the dedicated supply support section will monitor the monthly TCTO reconciliation listing and attend reconciliation meetings.

8.24. **Maintenance Turn-Around Record Update (TRN) Processing.** MSL must ensure TRNs are processed in a timely manner.

8.28. **Processing the MICAP.** MSL and/or dedicated supply support section performs these functions.

10.2.8. Refer to paragraph **10.8.1.1. (Added)** for additional QA inspector responsibilities.

10.6.4. Refer to chapter 7 for requirements for reviewing JSTs.

10.6.5.1. QA Superintendent is the Chief Inspector.

10.6.6.1. QA conducts management inspections at the direction of the MXG/CC.

10.6.19. Ensures agenda and presentations are compiled for QA meetings

10.7.4. Reviews monthly and quarterly summary inputs.

10.8.1.1. (Added) 2AXXX/2WXXX weapons qualified personnel may evaluate flight line and back shop 2W1 weapons maintenance tasks, loads and inspections. Exception: This does not apply to weapons loads being evaluated for certification and qualification requirements.

10.8.6. (Added) Performs duties (e.g. personnel evaluations, inspections and program management responsibilities, etc.) as determined by the QA Superintendent.

10.9.1. QAP is reviewed and updated semi-annually. Forward copies of updated QAPs to NAF /LGM.

10.9.1.3.7. The senior maintenance officer/supervisor may waive the KTL process when deployed away from home station and QA inspectors are not available. Home station waiver authority resides with the MXG/CC or QA supervisor. For the KTL process, the clearing of Red X discrepancies and exceptional releases will be IN ACCORDANCE WITH 00-20 series Technical Orders. Wings may add additional KTL requirements driven by specific MDS, mission and units requirements. The following are KTLs by MDS:

10.9.1.3.7.1. (Added) **HC/MC/C-130:**

10.9.1.3.7.1.1. (Added) Engine installation

10.9.1.3.7.1.2. (Added) TCTO Initial Compliance

10.9.1.3.7.1.3. (Added) Flight control boost packs Installation

10.9.1.3.7.1.4. (Added) MLG or NLG Assemblies installation

10.9.1.3.7.2. (Added) **HH-60:**

10.9.1.3.7.2.1. (Added) Engine installation

10.9.1.3.7.2.2. (Added) TCTO Initial Compliance

10.9.1.3.7.2.3. (Added) Main rotor head installation

10.9.1.3.7.2.4. (Added) Tail rotor head installation

10.9.1.3.7.2.5. (Added) Main gearbox installation

10.9.1.3.7.2.6. (Added) Tail gearbox installation

10.9.1.3.7.3. Added) **F-16:**

10.9.1.3.7.3.1. (Added) Throttle connection

10.9.1.3.7.3.2. (Added) Engine Bay Inspections

10.9.1.3.7.3.3. (Added) Engine build-up (JEIM)

10.9.1.3.7.3.4. (Added) Engine Acceptance Inspection

10.9.1.3.7.3.5. (Added) Gun Assembly/ Scheduled Inspection

10.9.1.3.7.3.6. (Added) TCTO Initial Compliance

10.9.1.3.7.4. (Added) **A/O-10:**

10.9.1.3.7.4.1. (Added) TF34 Build-up (917 Wing only)

10.9.1.3.7.4.2. (Added) TF34 Installation

10.9.1.3.7.4.3. (Added) Throttle Connection / Rig

10.9.1.3.7.4.4. (Added) APU Build-up

10.9.1.3.7.4.5. (Added) TCTO Initial Compliance

10.9.1.3.7.5. (Added) B**-52:**

10.9.1.3.7.5.1. (Added) TF-33 Installation

10.9.1.3.7.5.2. (Added) TCTO Initial Compliance

10.9.1.3.7.6. (Added) **C-141:**

10.9.1.3.7.6.1. (Added) Primary and Secondary flight control surfaces

10.9.1.3.7.6.2. (Added) Engine Installation

10.9.1.3.7.7. (Added) **C-5:**

10.9.1.3.7.7.1. (Added) Primary and Secondary flight control surfaces

10.9.1.3.7.7.2. (Added) Engine Installation

10.9.1.3.7.7.3. (Added) NLG & MLG Assembly Installation

10.9.1.3.7.8. (Added) KC-135:

10.9.1.3.7.8.1. (Added) Primary and Secondary flight control surfaces

10.9.1.3.7.8.2. (Added) Engine Installation

10.9.1.3.8.1. ISO/Phase Inspections.

10.9.1.3.9. QA coordinates with Munitions Flight Chief.

10.9.3. All failed evaluation and inspection reports require a documented response from the affected work center up to maintenance supervision for closure. Maintenance supervision notifies QA when corrective actions are completed.

10.13.1. (Added) **Quality Assurance Monthly Summary.** QA develops a monthly summary based on evaluations and inspections as it relates to the elements of the QAP conducted during the month. Bullet statements are used to make the report short, concise, and to the point. Any pertinent information or sug-

gestions may be added. Review previous monthly summary reports to determine if inspected areas have improved or declined. Negative trends should be highlighted in the monthly summary. Cross talk between analysis and QA personnel is important and encouraged. Automated inspection products may be added to the monthly summary to provide more information to supervisors on inspection results. Maintain monthly summaries for a minimum of 6 months. Units will forward copies of updated summaries to their NAF/ LGM.

10.13.2. (Added) **Quality Assurance Quarterly Summary.** Compile the summary using monthly summaries, charts, line graphs, narratives etc., discussing quality trends identified through inspections and evaluations. Organize the QAP summary by squadrons for comparison purposes at MXG/CC option. Maintain quarterly summaries for one year. Units will forward copies of updated summaries to their NAF/ LGM.

10.15.2.1.10. (Added) The PIM coordinates with MSL for DRs on LRS issued assets.

10.16.1. Refer to chapter 15 for additional QA TCTO responsibilities.

10.16.1.5. (Added) Establishes procedures to ensure configuration control of applicable Automated Computer Program Identification Number System (ACPINS). Software configuration control will be maintained IN ACCORDANCE WITH TO 00-5-16, Manual USAF Automated Computer Program Identification Number System (ACPINS), and TO 00-5-17, Users Manual USAF Computer Program Identification Numbering (CPINS) System.

10.16.5. Local Checklists, Workcards, Page Supplements, and Job Guides. Use of local workcards (LWC), local job guides (LJG), local page supplement (LPS), or local checklists (LCL) to accomplish maintenance on Air Force equipment places a considerable responsibility on the TODO for the safety of operations, the adequacy of procedures, and the quality of maintenance performed. Work centers thoroughly research the procedures contained in the local technical instructions. QA and work centers validate them annually for currency according TO 00-5-1. Ensure LWCs, LJGs, LPS and LCLs are reviewed for currency when source reference data changes. In addition to the requirements in TO 00-5-1, ensure checklists, job guides, page supplements, and workcards are published as follows:

10.16.5.1. (Added) Formatting:

10.16.5.1.1. (Added) Are normally 5 by 8 inches and punched to fit checklist-size binders. AFTO Form 26, Aircraft Inspection Work Document, can be used for workcards.

10.16.5.1.2. (Added) Sets containing more than two pages include a separate title page with the title in the center of the page. Sets containing two pages or less include the title on the top page.

10.16.5.1.3. (Added) Are assigned a four-part identification number consisting of type of data (LCL, LJG, LPS, or LWC), issuing unit, category of equipment/procedure, and the number assigned, sequentially, to each locally prepared checklist/job guide/workcard issued in that category (that is, LWC-419FW-10-1, F-16 ENGINE BAY INSPECTION). The identification number is centered on the title page in the upper right hand corner on subsequent pages. Equipment/procedure categories are:

10.16.5.1.3.1. (Added) 10 series: Aircraft/Engines/Propellers and Rotor Blades.

10.16.5.1.3.2. (Added) 20 series: Non-powered Aerospace Ground Equipment (AGE).

10.16.5.1.3.3. (Added) 30 series: Powered AGE

10.16.5.1.3.4. (Added) 40 series: General safety procedures.

10.16.5.1.3.5. (Added) 50 series: Munitions.

10.16.5.1.3.6. (Added) 60 series: Miscellaneous.

10.16.5.1.4. (Added) Are dated on the title page below the title and on each subsequent page in the upper right corner below the identification number.

10.16.5.1.5. (Added) Pages are numbered in lower right corner.

10.16.5.1.6. (Added) Contain a list of source references on the reverse side of the title page.

10.16.5.1.7. (Added) Contain a list of effective pages on the reverse side of the title page.

10.16.5.1.8. (Added) Contain the signature and title of the issuing authority group commander.

10.16.5.2. (Added) QA issues changes and revisions, as necessary, to maintain currency with technical data or changes in equipment. Changes and revisions are appropriately identified and dated.

10.16.5.3. (Added) Locally developed LCL, LJG, LPS, and LWCs are issued, controlled, and inspected the same as Air Force produced technical data.

10.16.5.4. (Added) QA publishes and revises LCL, LJG, LPS, and LWC indexes. These indexes are revised as required but at least annually. Copies of indexes are distributed to all sub-accounts.

10.16.5.5. (Added) TO File Maintenance Training. The QA TODO ensures all personnel assigned TO maintenance responsibilities are trained and qualified.

10.17.2.1. (Added) Unit responsibility. Provide informational copy to NAF/LGM and AFRC/LGM.

10.17.2.2. (Added) NAF/LGM Responsibilities. Issue OTI to all affected units within applicable NAF and provide informational copy to HQ AFRC/LGM and other NAFs possessing like equipment.

10.17.2.3. (Added) HQ AFRC/LGM, Aircraft Maintenance Division Responsibilities. Issue OTI to all affected units and applicable numbered air forces (NAF). Provide informational copies of AFRC, NAFs, and unit OTIs and, when applicable, to HQ AFRC/DOOC, SPD, lead command, and commands possessing like equipment.

10.22. **High Speed Taxi Checks.** High Speed Taxi Checks are prohibited on F-16 aircraft.

11.2.3. The impoundment official will hold the minimum rank of MSgt.

11.3. **Reasons for Impoundment of Aircraft or Equipment.** As a minimum, impound aircraft or equipment for the following conditions identified in paragraphs 11.3.1 through 11.3.10.

13.2.1.3. Warranty/Quality Tool Program. Warranty tools are obtained by local contracts with warranty tool vendor. Detailed management procedures are contained in AFMAN 23-110. The following general guidelines apply:

13.2.1.3.1. (Added) When preparing background information for base contracting, ensure all MIL SPEC and other requirements are identified. Provide as much information as possible on desired strength, finish, insulation, physical dimensions, magnetic properties, laser etching, and size of letters.

13.2.1.3.2. (Added) Specify desired replacement tool requirements:

13.2.1.3.2.1. (Added) Replacement tool delivery time.

13.2.1.3.2.2. (Added) Etching of replacement tools.

13.2.1.3.2.3. (Added) Work Center responsible for maintaining replacement tools and number of tools stocked.

13.2.1.3.2.4. (Added) Direct contact with vendor to replace tools.

13.2.1.3.2.5. (Added) The contract should include procedures for replacement of lost tools.

13.2.1.4.1. (Added) Expendable hand tools such as blades, apexes, files, and file cleaners consumed during use may be placed on bench stock.

13.2.1.9. Rag control applies to organizations and personnel performing on-equipment aircraft maintenance, jet engine maintenance, and other areas as designated by group commanders.

13.2.1.14. (Added) Post aircraft taxi/takeoff procedures for lost tools.

13.3.4. When interchanging like items, all changes are annotated on the CTK contents lists; initialed and dated by the approving authority.

13.3.4.6.1. (Added) Special Purpose CTK. Small individually issued tool kits that, because of the nature of contents, preclude shadowing or silhouetting (that is, cartridge cleaning kits, oxygen servicing kits, etc.).

13.3.4.15. (Added) CTKs/tools are not issued for personal use.

13.3.4.16. (Added) Replacement tools are not issued without receipt of the unserviceable tool or documentation indicating the tool is lost and reported according to the lost tool procedures outlined in this instruction.

13.4.1.2. (Added) TAS does not replace the requirement for marking CTKs and individually issued tools. All individually issued tools and CTKs using bar coding are still required to be clearly marked with the CTK designator according to local procedures. However, bar coding may be used in lieu of the documentation requirements of this instruction if all control and accountability requirements are met. The following procedures apply:

13.4.1.2.1. (Added) Each CTK is individually numbered. Units with multiple cabinets may elect to identify all cabinets as one CTK. Tools contained in a CTK are marked with the assigned CTK number.

13.4.1.2.2. (Added) Tools or equipment issued individually are marked with a CTK position designator.

13.4.1.2.3. (Added) A copy of the CTK contents list remains in each CTK at all times for inventory purposes. The CTK custodian files the master copy. Contents lists are broken down by drawer/section indicating the total number items.

13.4.2. Grease guns are marked with the military specification of the grease on the barrel, the handle and hose, or fitting of each gun. Fittings/hoses are purged of all grease prior to use when different type grease is required.

13.4.6. (Added) Personnel equipment such as Ear defenders/headsets issued to an individual may be maintained in personal lockers/or tool rooms. As a minimum, these items are marked with the individual's employee number and workcenter.

13.5.1.2.1. (Added) When available, TAS generated products (forms) are replacements for AFRC Forms 174, 175 and 177. These forms will be destroyed when the pertinent information is transferred to TAS.

13.5.1.2.1.1. (Added) Forms: (When automated systems are not available) The AFRC Form 177, **Consolidated Tool Kit Inventory and Control Log**, is used for accountability and control of CTKs and tools.

The form remains in the tool room or workcenter. A separate AFRC Form 177 is maintained for each CTK. The form is used to record CTK/tool transactions. The person signing out/assuming responsibility for the CTK/equipment annotates the "out time/signature" block. The "in" block is annotated when the user returns the CTK/equipment. The person annotating the "out block is not the same person annotating the "in" block. However, if necessary develop local procedures to cover in/out procedures for tool control in instances where only one person is assigned to a shift/workcenter.

13.5.1.2.1.2. (Added) (When automated systems are not available) The AFRC Form 175, **Missing/ Removed Tools Equipment,** is used to annotate all removed/missing tools and equipment and action taken on these items. A separate AFRC Form 175 is maintained for each CTK. When replacement tools are placed on order, the document number is entered in the reason block of the form. Then a tool is reported missing or lost, indicate the date and time lost tool procedures were initiated. Items removed for calibration are entered on this form. When the AFRC Form 175 is full, initiate a new form and transfer all open entries to the new form. General purpose forms or an index card may be dispatched with CTKs to show missing/removed tools only.

13.5.1.2.1.3. (Added) (When automated systems are not available) Use AFRC Form 177, **Consolidated Tool Kit Inventory and Control Log**, AF Form 1297, or a "chit system" for control tool kit/equipment accountability.

13.5.2.3. (Added) CTKs used in an off-equipment environment and that are not dispatched may be left open for all personnel to use during a shift. Whenever the CTK is opened/closed, it is inventoried.

13.5.2.4. (Added) The contents of these CTKs are not inventoried until CTKs are signed out. Contents of non-dispatchable CTKs (i.e. cabinets, toolboxes installed on aircraft) that are opened are inventoried at the beginning and end of each shift. The individual performing the inventory ensures all CTKs and individually issued equipment are on hand or accounted for. Document beginning and end of shift inventories in TAS or on AFRC Form 177. When the AFRC Form 177 is full, initiate a new form and discard the completed form after at least one beginning and one end-of-shift inventory is recorded on the new form.

13.5.2.5. (Added) Tool Replacement Procedures. A stock of spare tools is authorized. Spare and consumable tools are highly pilferable and pose an increased fraud, waste, and abuse potential. Consequently, maintenance officers/superintendents ensure controls are established according to supplements/OIs. An inventory of all replacement tools is accomplished and documented quarterly.

13.7.1.5. (Added) Combination locks are not to be used on CTKs. EXCEPTION: Combination locks are authorized at MXG/CC option for CTKs permanently maintained on board aircraft.

13.8.1.5. (When automated systems are not available) An AFRC Form 174, Lost Tool/Object Report is completed for each lost tool/object unless the item is immediately recovered. The CTK custodian maintains AFRC Form 174 on suspense. Destroy suspense report when item is recovered or not found within 1 year.

14.2.1.1. Any 2AXXX person may perform this function.

14.2.1.2. WTQM will receive recurring training annually.

15.2.1.2. Semiannually for AFRC units.

15.2.1.5.1. Weapon system familiarization training is required for personnel not familiar with weapons system. Training is provided by LTF/TD or locally developed training program and accomplished before award of "5" skill level.

15.2.2.4. AFRC units forward depot schedules and changes to NAF, MAJCOM Functional Managers and MAJCOM/AVDO.

15.2.5.6. Applicable to 10 AF units only.

15.3.1.4. Applicable to 10 AF units only.

15.5. **Operational Planning Cycle.** No additional/supplemental guidance required. The AFI guidance is sufficient enough to accomplish the wing's mission.

15.6.1. AFRC units first working day of March.

15.6.3.1. Not applicable to AFRC AMC-Gained units.

15.6.3.2. Not applicable to AFRC AMC-Gained units.

15.6.3.3. Not applicable to AFRC AMC-Gained units.

15.6.3.4. Not applicable to AFRC AMC-Gained units.

15.6.4. Packages will be presented to OG/MXG/CC by 15 June. After final approval by WG/CC, "First Look" projections will be sent from the WG/CC to MAJCOM/DO/LG NLT 30 June.

15.7. **Annual Maintenance Planning Cycle.** No additional/supplemental guidance required. The AFI guidance is sufficient to accomplish the wing's mission.

15.7.1. (Added) HQ AFRC/DOTSF distributes flying hours to unit OG/MXG no later than 49 days before the beginning of the fiscal year.

15.8.1. No additional/supplemental guidance required. The AFI guidance is sufficient to accomplish the wing's mission.

15.9. **Monthly Scheduling.** No additional/supplemental guidance required. The AFI guidance is sufficient to accomplish the wing's mission.

15.10. **Weekly Scheduling.** No additional/supplemental guidance required. The AFI guidance is sufficient to accomplish the wing's mission.

15.10.3.9. Units will follow coordination procedures outlined in paragraph 15.10.3.10 and its subparagraphs. Changes to the weekly schedule of the following types:

15.10.3.9.1. (Added) **Pen-and-Ink changes** . Pen-and-ink changes to next week's schedule prior to the end of the duty day Friday are authorized. They are non-chargeable and become part of the printed weekly flying schedule. AF Form 2407 coordination is required stating the changes are pen-and-ink.

15.10.3.9.2. (Added) **Interchanges (Tail Number Swaps)** . Interchanges should be used to prevent reconfigurations and unnecessary expenditures of man-hours when the prime aircraft is not mission-capable by its scheduled takeoff time. Every effort is made to make the aircraft interchanges at the daily maintenance meeting the day prior to the aircraft scheduled flight and entered on the AF Form 2407. Interchanges that are made after the daily maintenance meeting and prior to the units first crew ready time the next day require an AF Form 2407 be coordinated through the required agencies. After that, normal deviation recording applies. All interchanges made at the daily maintenance meeting are entered on an AF Form 2407 for audit and analysis purposes.

15.10.3.9.3. (Added) **Configuration.** Configurations should be finalized at the daily maintenance meeting and documented on an AF Form 2407. To prevent excessive expenditures of man-hours, configuration

changes made after the daily maintenance meeting and prior to the first crew ready time the next day require an AF Form 2407 be coordinated through the required agencies.

15.10.3.9.4. (Added) **Procedures.** Changes made during the daily scheduling meeting require an AF Form 2407. Changes made after the daily scheduling meeting and prior to the unit's first crew ready time the next day also require an AF Form 2407. The agency requesting the change initiates the AF Form 2407 and coordinates it through the affected production supervisor/maintenance officer and operations officer as well as required GP/CC and unit staff agencies. After coordination, the original copy of the AF Form 2407 is filed in PS&D. PS&D inputs AF Form 2407 coordinated schedule changes into the applicable MIS operational events subsystem using the procedures in user manuals/guides.

15.10.3.9.5. (Added) **Electronic Changes.** Units must establish written procedures for electronic coordination of all schedule changes. In all cases an AF Form 2407 must be attached when coordinating changes to the weekly schedule.

15.12.2.2.2. MSL and/or the dedicated supply support section attend the TCTO planning meetings, if required.

15.13.1.2. AFRC units provide an informational copy to their appropriate NAF representative.

15.13.2.2.2. Engine time change items will be ordered by the engine manager up to 60 days but not less than 45 days prior to need date.

15.15.3.6. Units perform inspections of CAD/PAD items on all newly assigned aircraft and on any aircraft returning from Depot/PDM where egress systems have been worked on. CAD/PAD inspection criteria for unit assigned aircraft returning from Depot/PDM where egress systems have not been worked on is determined by the MXG/CC.

16.1.12.1. Munitions custodial accounts maintained by weapons section may be combined.

16.1.14. The WWM Coordinates with the MXG/CC in determining the number of load crews to be certified on support or limited use munitions.

16.1.25. Electronically forward the completed/updated Armament Equipment Status Summary to 10AF/LGMM and HQ AFRC/LGMW.

16.1.30. Each functional area complies with their own self-inspections.

16.2. **Weapons Standardization (WS).** Rescue units designate instructors to train individuals on applicable portions of the academic, practical and weapons task qualification sections of this chapter. Rescue units also comply with paragraphs 16.1.7, 16.1.15, 16.1.25 and 16.1.27 of weapons managers' responsibilities. Units that only utilize a Mobility Aircraft Defensive System need only comply with chapter 14 of this instruction.

16.2.2. WS superintendent responsibilities may be performed by the LSC crew chief.

16.2.2.8. May use the Weapons Load Crew Management Program, (WLCMP) or equivalent to document Concurrent Servicing Operation (CSO) or Dual Loading Operation (DLO) dates.

16.2.2.10. Units may maintain basic loading tech data for other US Air Force assigned fighter and bomber aircraft as determined by the WWM.

16.2.2.16. WS CTKs and equipment may be maintained with the weapons section CTKs and equipment IN ACCORDANCE WITH Chapter 13.

16.3. **Loading Standardization Crew (LSC).** If the LSC crew chief is performing WS superintendent duties then the WWM will evaluate and certify the LSC.

16.3.9. The LSC may designate this responsibility to lead crew(s).

16.4. **Academic Instructor.** Academic instructors may be members of the LSC or lead crew.

16.5. **Lead Crews.** WWM may authorize lead crews to perform flightline evaluations at home station and while deployed.

16.7. **Academic Training.** Document academic training in an automated system.

16.8.3. When a new PM or SM is designated, crews are certified or CFL trained as soon as practical after receipt of training items.

16.8.4. AGE and SE familiarity training may be incorporated into Weapons Academics training.

16.8.7. Supervisory ost load training may be incorporated into Weapons Academics.

16.10. **Task Assignment List (TAL).** TALs are not required for rescue units.

16.11.4. DLOs are not authorized for fighter aircraft.

16.11.12. (Added) Postload/Seven Level Check (B-52 aircraft only). A specific power on checks/tasks accomplished prior to declaring munitions loaded B-52 aircraft mission ready.

16.11.13. (Added) Quarterly, Semiannual, or Annual Interval. A period based on three, six, or twelve calendar months, respectively. For example, a quarterly requirement accomplished any time in February is due the last day in May.

16.12.1.1. After initial certification the LSC/senior Lead Crew should rotate positions during MPRLS to maintain a high degree of efficiency. By rotating positions during MPRLS the LSC/senior Lead Crew is awarded a "blanket certification" whereas they are initially certified by position but may load in other positions without additional position documentation (AF Form 2435). The LSC and the senior Lead Crew are the only individuals that may be awarded "blanket certification."

16.12.1.2. The minimum number of LCs specified in the UCML must be certified on all Primary Munitions.

16.12.2.2. Fail to complete a required evaluation (QE, MPRL, etc.). If an individual is TDY, on emergency leave, incapacitated, or involved in an unannounced local or higher headquarters exercise, rescheduled/excused UTA, or if loading operations are canceled due to inclement weather, that person (and LC, if applicable) need not be decertified/disqualified if the current month's MPRL/evaluation requirements and all past due evaluations are completed within 60 days of the member's return to duty.

16.12.8. Internal and external conventional munitions configurations on bomber aircraft are considered separate certification tasks. MXG/CC determines the amount of crews to be certified internally/externally.

16.14. **MPRL.** CSO/DLO procedures may be used to fulfill these requirements. Realistic integrated configurations, compatible with unit tasking and the aircraft flight manual, are used during the proficiency loads.

16.15. **Load Crew Quarterly Evaluations.** Quarterly Evaluations. The LSC or Lead Crew evaluates each Load Crew once a quarter on one of the unit PMs (all unit PMs are used on a rotating basis). CSO/DLOs may be used to fulfill this requirement.

16.15.1.3. Failure of a LC to demonstrate proficiency need not result in formal decertification if the crew immediately reaccomplishes the same load satisfactorily within the same day or UTA.

16.15.1.4. When the same rating is not applied to all munitions loaded during an integrated load, separate evaluation forms may be completed.

16.16. **Documenting Load Crew Training.** When the standardized weapons LC management software program is utilized, imbedded documentation is used in lieu of requirements for documenting the AF Form 2419 and AF Form 2435.

16.16.2. Munitions identified on the UCML are listed individually or by MFG as applicable in block 7 of the AF Form 2435. List all munitions individually in Block 12. MFG entries are only limited to block 7. A separate entry is made for DLO qualification, if applicable.

16.16.3. Block 8 Dates are not entered for CFLs. Block 11 - Signatures are not entered for CFLs or DLOs. When decertifying load crewmembers complete blocks 9 and 10, and recertify by adding a new entry on front of the AF Form 2435.

16.16.4.1. (Added) AF Form 2435 Block 12 entries:

16.16.4.1.1. (Added) Enter the date the MPRL, CFL, quarterly evaluation, or DLO was accomplished in the applicable month column.

16.16.4.1.2. (Added) Enter one of the following codes in the month column if the required loads are not completed and provisions of this chapter apply: temporary duty (TD), leave (LV), incapacitated (ED), or exercises (EX). Weather canceled (WX) or rescheduled/excused UTA (RS). The letter "E" is placed after the date for the quarterly evaluation regardless of rating.

16.16.4.1.3. (Added) If the AF Form 2435 is reaccomplished, only the most current information and dates are entered. If the latest date is from a previous calendar year, it is entered on the appropriate line immediately to the left of the Jan column.

16.19. **Weapons Task Qualification.** Rescue units develop a local standardized lesson plan for weapons task qualification training.

16.19.2. CFL training may suffice for qualification training.

16.20.1.4. (Added) Load and unload TGM-65 missiles (requires three people).

16.20.1.5. (Added) Load and unload inert GP bombs (requires three people). (Four people required for B-52 aircraft).

16.20.1.6. (Added) In B-52 units, performs transfer (mate/demate) and transports procedures involving inert training weapons.

16.20.2.3. Load and unload C-130 pyrotechnics.

18.2.4. AFRC units will use AFRC Form 176, **Request for Placement on Special Certification Roster**.

18.5.7. The CANN Authority (CA) will notify MSL and/or the Dedicated Supply Support Section who accomplishes the MICAP verification to include non-availability of parts in the TNB and notifies the MICAP section to change the "Mark-For" components in the document number.

18.6.1. AFRC units will publish an operating instruction (OI) to establish procedures covering specific unit hangar queen responsibilities. The OI will include as a minimum:

18.6.1.1. (Added) Daily maintenance and administrative oversight actions

18.6.1.2. (Added) Disciplined leadership involvement on cannibalization actions

18.6.1.3. (Added) Documentation management actions (forms management, records checks, CAMS/GO81)

18.6.1.4. (Added) Unit to Headquarters reporting instructions

18.6.3.2. AFRC units will report hangar queen aircraft monthly to HQ AFRC/LGM/LGS and the NAF/LGM/LGS. The monthly report will be submitted NLT the 7th calendar day of the following month via email and contain the following information:

18.6.3.2.1. (Added) Unit, MDS, and tail number.

18.6.3.2.2. (Added) Date aircraft last flown.

18.6.3.2.3. (Added) Reason for hangar queen status.

18.6.3.2.4. (Added) Supply pacing item.

18.6.3.2.5. (Added) Total not mission capable supply (TNMCS) information to include nomenclature, national stock number (NSN)/part number, work unit code (WUC), estimated delivery date (EDD) and off base requisition.

18.6.3.2.6. (Added) Estimated fly date.

18.6.3.2.7. (Added) Identify any assistance required from NAF or AFRC/LGM.

18.6.3.2.8. (Added) Unit point of contact (POC), telephone number (DSN).

18.6.3.2.9. (Added) Plan for recovery.

18.6.3.3.1. (Added) Category 3 reporting and information will remain the same as specified in paragraphs **18.6.3.2.** thru **18.6.3.2.9. (Added)**

18.6.7. AFRC units will perform an aircraft documents review (ADR) prior to first flight out of hangar queen status. All AFTO Form 781 series maintenance forms initiated since the last flight shall be reviewed, with QA as the final reviewer.

18.17.1. NAF and unit commanders ensure compliance with this instruction. Units submit waiver requests to 10AF/LGM, 1700 Military Parkway, NAS FT Worth JRB TX, 76127-6200.

18.17.3. Units must forward requests for MAJCOM certification through their numbered air force to HQ AFRC/LGM. Hot refueling is not accomplished until the AFRC Site Certification Team according to TO 00-25-172 and this instruction initially certifies the location, equipment requirements, and personnel qualifications.

18.17.4. Initial implementation of hot refueling, units are certified by the AFRC Hot Refuel Site Certification Team according to TO 00-25-172. Certification involves training a cadre of instructor personnel and approving specific hot refueling sites.

18.17.5. Identify unit-approved sites on the aircraft parking plan. The Base Civil Engineer, QA, and Operations Support Squadron (OSS) maintain copies of hot refueling sites on file. Forward record copies to HQ AFRC/LGM/CEOM/SEG/LGSWF and 10AF/LGMA.

18.17.6.4. (Added) Unit recertification team conducts recertification of hot refuel sites at least once every 5 years. Certifying officials forward one copy of recertification certificate to 10AF/LGMA and HQ AFRC/LGM.

18.17.7.1. Units forward checklists to 10AF/LGMA and HQ AFRC/LGMAF/LGSF for approval.

18.17.8. Units forward supplemental procedures to 10AF/LGMA and HQ AFRC/LGMA/LGSF for approval.

18.17.9.1. (Added) A10 and F16 fighter units with combat coded (CC) aircraft form a minimum of two qualified hot refueling crews.

18.17.9.2. (Added) Each base fuels management flight maintains a minimum of three hot refueling certified fuels specialists for each aircraft maintenance squadron authorized to conduct hot refueling.

18.17.9.3. (Added) Units maintain equipment required to perform hot refueling in serviceable condition. Establish, accomplish, and document periodic inspections according to applicable directives.

18.17.11.1. Pad Supervisors requires a "7" skill level qualification in an aircraft maintenance AFSC.

18.17.11.2. Hot Refuel Supervisor "A" member requires a "7" skill level qualification in an aircraft maintenance AFSC or qualified flight engineer for the HH60.

18.17.11.3. Hot Refuel Crew "B" member requires a "5" skill level qualification in an aircraft maintenance AFSC or qualified flight engineer for the HH60.

18.17.11.4. Fuels Specialist, AFSC 2F0X1 "C" member requires a "5" skill level qualification.

18.17.11.5. Hot Refuel Crew "D" member requires a "5" skill level qualification in an aircraft maintenance AFSC.

18.17.14. Training/certification requirements for hot refuel team members, supervisors, instructors, and evaluators are outlined in **Table 18.2. (Added)** HH60 aircrew member currency is maintained according to AFI 11-2HH60.

18.17.15. Units use AFRC Form 176, **Request for Placement on Special Certification Roster**.

18.23.2.4. Intake covers are installed according to criteria as specified in MDS specific -6 WC work cards and local instructions.

18.23.9.2. Foreign Object Damage (FOD) Reporting. All FOD incidents require reporting. The group/wing FOD manager reviews each FOD incident and prepares a detailed report (AFRC Form 42) according to this instruction and AFI 91-204. Units report all FOD incidents to their NAF FOD manager by telephone not later than the next duty day after the incident occurs. The NAF FOD manager assigns a FOD control number and reports the incident to the AFRC FOD manager by the second day after the incident occurs. The unit's NAF will forward the AFRC Form 42 to HQ AFRC/LGM. The unit FOD monitor, jet/turboprop engine technician, and safety office as applicable will jointly investigate FOD mishaps, which meet the reportable criteria requirements of AFI 91-204.

18.23.9.2.1.1. (Added) AFRC Form 42, FOD Mishap Investigation Check Sheet, or electronic equivalent is used to investigate and report FOD mishaps. The AFRC Form 42 is completed and forwarded to the AFRC FOD manager and NAF FOD manager within 30 days of incident.

18.23.9.2.1.2. (Added) Units submit maintenance crosstell reports by message to HQ AFRC/LGM, NAF/LGM, and all units with like MDSs for those incidents that have fleet-wide FOD potential.

18.23.9.2.1.3. (Added) Report bird strikes to include associated costs to NAF FOD monitor.

18.23.11.1.1. AFRC/LGMA will act as OPR for DOP.

18.24.1.2. The frequency of RWR/RTHW checks is determined by the MDS specific technical data. When -6 T.O. does not specify a frequency, checks will be accomplished every 90 days during non-contingency operations.

18.24.1.2.1. (Added) A-10 and F-16 units develop a RWR/RTHW roll through test program to ensure personnel remain proficient in, and are capable of performing this task in contingency operations. Every test includes a check of one signal per band and continuous wave (if equipped).

18.26.1.1. AFRC propulsion to determine topics for inclusion into unit training lesson plans as required by AFI 11-218.

18.26.10. All engine run certified personnel will perform at least one engine run (N/A for trim boxes and APU) during a 90-day period, or they become decertified. Track engine run certification in the MIS.

18.26.11. Not authorized in AFRC.

18.26.16.5.1. (Added) For operations of engines on test stands and cells the certified operators will perform at least one engine run during a 120-day period, or the become decertified. Track engine run certification in the MIS.

18.27.2.3. (Added) Testing data will be tracked in MIS.

18.28. **Sortie Generation Operations.** A-10 units are authorized to use AFMC approved –6 quick turn work cards.

18.28.1. Bomber units may conduct DLOs during SGOs. However, DLOs will not be conducted concurrent with aircraft refueling/defueling operations.

18.28.3.1. (Added) Unit SGO/CSO familiarization training as a minimum will consist of the following:

18.28.3.1.1. (Added) Concept of operations and inherent risks associated with SGO/CSO.

18.28.3.1.2. (Added) MDS specific requirements, safety and emergency procedures (e.g. fuel spill, hydrazine, personnel evacuation, etc).

18.28.3.1.3. (Added) CSS departure procedures from the CSO area.

18.28.3.1.4. (Added) Fire protection requirements IN ACCORDANCE WITH T.O. 00-25-172.

18.28.3.1.5. (Added) Cockpit access requirements.

18.28.3.1.6. Added) Support equipment requirements.

18.28.3.1.7. (Added) Unique local operating procedures.

18.28.3.2. (Added) Prior to accomplishing SGO/CSO CSS personnel must:

18.28.3.2.1. (Added) Receive annual CSS certification training. Training will be documented as “CSS” in the MIS. Certification training as a minimum will consist of the following:

18.28.3.2.2. (Added) Possess a thorough knowledge of safety requirements contained in 00-25-172 and 11A-1-33.

18.28.3.2.3. (Added) Receive annual SGO/CSO familiarization training.

18.28.3.2.4. (Added) Classification and response for fuel spills.

18.28.3.2.5. (Added) Fuel Servicing Safety Zones.

18.28.3.2.6. (Added) Fire protection requirements.

18.28.3.2.7. (Added) Hot brake procedures.

18.28.3.2.8. (Added) Emergency notification procedures/withdrawal distances

18.28.3.3. (Added) Prior to accomplishing SGO/CSO, 2AXXX personnel must:

18.28.3.3.1. (Added) Have a thorough knowledge of safety requirements contained in 00-25-172, 11A-1-33, and MDS specific 1X-XXX-2, and 1X-XXX-6 manuals

18.28.3.3.2. (Added) Be qualified in applicable tasks accomplished in support of SGO/CSO.

18.28.3.3.3. (Added) Receive annual SGO/CSO familiarization training. Training will be documented as "SGO/CSO member" in the MIS.

18.28.3.4. (Added) Prior to accomplishing SGO/CSO, 2WXXX personnel must:

18.28.3.4.1. (Added) Have a thorough knowledge of safety requirements contained in 00-25-172, 11A-1-33, and MDS specific 1X-XXX-33-1-2/1X-XXX-33-2-1 manuals

18.28.3.4.2. (Added) Be certified/qualified in applicable tasks accomplished in support of SGO/CSO.

18.28.3.4.3. (Added) Receive annual SGO/CSO familiarization training. Training will be documented as "SGO/CSO member" in the MIS.

18.28.5.2.2. Ensures SGO proficiency training exercises are conducted. Coordinates refueling and munitions requirements with the applicable group/squadron commander prior to each scheduled SGO exercise.

18.28.5.3. (Added) The Maintenance Superintendent with aircraft generation responsibility ensures the unit SGO/CSO program, to include training requirements, is established and supported consistent with the unit's mission. Determines procedures for CSS departure from the CSO area. Publish a local directive outlining SGO/CSO requirements.

18.28.6.5. (Added) Units will develop a local CSO checklist used by the CSS to brief CSO personnel prior to accomplishing each concurrent servicing operation. The checklist will address as a minimum the following:

18.28.6.5.1. (Added) Overview of the CSO.

18.28.6.5.2. (Added) Safety requirements IN ACCORDANCE WITH T.O. 00-25-172.

18.28.6.5.3. (Added) Emergency notification procedures/withdrawal distances (eg fuel spill, hydrazine, personnel evacuation, etc)

18.28.6.5.4. (Added) CSS departure from the CSO area.

18.28.6.5.5. (Added) Fire protection requirements IN ACCORDANCE WITH T.O. 00-25-172.

18.28.6.5.6. (Added) Cockpit access.

18.28.6.5.7. (Added) Support equipment.

18.28.6.5.8. (Added) Munitions specific requirements.

18.28.6.5.9. (Added) Unique local operating procedures.

18.28.6.6. (Added) When accomplishing SGO/DLOs, where a CSS is not required, the weapons load crew chief will brief SGO/DLOs personnel on munitions emergency procedures according to T.O. 00-25-172.

Table 18.1. Mandatory Special Certification Roster (SCR) and Prerequisites.

	A	B
Item	**Mandatory SCR Items Titles**	**Prerequistes**
16	Hot refueling team supervisor "A" member	Minimum 7 skill level 2AXXX AFSC with a minimum of 6 months experience on the MDS (Note 2)
25 (Added)	Rapid Defuel excluding fireguard position for (MAF units only)	Minimum 5 – skill level (Note 2)
26 (Added)	Jacking Supervisor (MAF units only)	Minimum 7 – skill level (Note 2)
27 (Added)	Landing Gear Retraction supervisor Position A (MAF units only)	Minimum 7 - -skill level (Note 2)
28 (Added)	Jacking Manifold Operator (MAF units only)	Minimum 5 – skill level (Note 2)
29 (Added)	Integral Jacking Supervisor (MAF units only)	Minimum 7 – skill level (Note 2)
30 (Added)	Chaff and Flare Certifier (MAF units only)	Minimum 7 – skill level (Note 2)
31 (Added)	Cannot Duplicate (CND)	Minimum 7 – skill level (Note 2)
32 (Added)	Ramp Inspector (MAF units only)	Minimum 5-skill level (Note 2)
33 (Added)	Strut Servicing (MAF units only)	SrA or higher, minimum 5-skill level
34 (Added)	Hot Refueling team member (A-10, F-16, H-60)	Minimum 5 skill level 2AXXX AFSC with a minimum of 6 months experience on MDS (Note 2)
35 (Added)	Concurrent Servicing Supervisor (CSS) for SGO (A-10, F-16)	Minimum 7 skill level 2AXXX or 2WXXX AFSC with a minimum of six months experience on the MDS (Note 2)
36 (Added)	Concurrent Servicing Operations team member for SGO (A-10, F-16)	Minimum 5 skill level 2AXXX or 2WXXX AFSC (Note 2)

Table 18.2. (Added) Hot Refueling Training/Certification Requirements.

TO MAINTAIN CERTIFICATION					
POSITION	REQUIRED TRAINING	CONDUCTED BY WHOM	DO WHAT	HOW OFTEN	SPECIAL REQUIREMENTS
QA T/E/C	I, II, III	10AF/AFRC Or Other QA T/E/C	Perform	2 Hot Refuels Annually	Annual Eval By QA NCOIC
QA Augmentee	I, II, III	QA T/E/C	Perform	2 Multiple Hot Refuels Annually	Annual Eval By QA T/E/C EPE Required
Hot Pad Super	I, II, III	T/E/C Or Augmentee	Supervise Or Perform As "A" Member	Hot Pad Super I, II, III T/E/C Or Augmentee 2 Multiple Hot Refuels Annually	Annual Eval By QA T/E/C
Hot Refuel A, B, C, D Member	I, II, III	QA T/E/C Or Augmentee	Perform In Any Qualified Position	2 Hot Refuels Annually	Annual Eval By QA T/E/C
Decertified Augmentee Or Hot Pad Super	Repeat II, III	QA T/E/C	Perform Supervise And Certify	2 Multiple Hot Refuels Within 60 Days Of Decert	EPE Required For Augmentee
Decertified A, B, C, D	Repeat II, III	QA T/E/C Or Augmentee	Perform	2 Hot Refuels Within 60 Days Of Decert	None
Decertified QA T/E/C	Repeat II, III	QA T/E/C	Perform Instruct And Certify	2 Hot Refuels Within 60 Days Of Decert	EPE Required

TO MAINTAIN CERTIFICATION					
POSITION	REQUIRED TRAINING	CONDUCTED BY WHOM	DO WHAT	HOW OFTEN	SPECIAL REQUIREMENTS
All Personnel Decertified	Repeat I, II, III	10AF/AFRC	Perform	2 Hot Refuels Within 90 Days	Determined Case-By-Case By 10AF/ AFRC
LEGEND: 1. EPE = Evaluator Proficiency Evaluation 2. T/E/C = Trainer/Evaluator/Certifier					

18.30. (Added) **AFRC Engine Management Guidance.**

18.30.1. (Added) The AFRC Command Engine Manager (CEM) controls all engine movement, stock levels, distribution, and depot purchased equipment maintenance (DPEM) requirements, supports planning, programming, and budgeting for all command engines. The CEM monitors and takes action to maintain required unit spare engine levels within each mission design series (MDS) and engine type. CEM command authority is limited to administrative authority to direct and control engine movements, as required to support command needs, allowing efficient and effective management of the command's fleet of aircraft engines.

18.30.2. (Added) AFRC uses a single manager for engine program management actions that involve the expenditure of funds. Semiannual negotiations are conducted with supporting engine depots for a command engine repair requirement based on the annual flying hour program for each MDS for six out years. The CEM controls the distribution of engines to fill negotiated requirements and controls the expenditure of HQ AFRC DPEM funds. To effectively and efficiently manage the DPEM account and control distribution of command engines, a control number system, administered only by the CEM or an alternate, is used. The numbered air forces (NAF) are indirectly involved in engine movements or DPEM actions due to the need for strict accountability and centralized management of the DPEM account within HQ AFRC.

18.30.3. (Added) The CEM is required to compute base stock level (BSL) and war reserve engine (WRE) levels for each engine type and unit using the Propulsion Requirement System (PRS). Actual quantities are negotiated with supporting engine depots. An official message of notification, signed at HQ AFRC/ LGM level, is sent to each unit and NAF upon completion of negotiations by the CEM.

18.30.4. (Added) AFRC Engine Tracking, Control, and Movement Guidance:

18.30.4.1. (Added) General Engine Management Guidance. Prior coordination with the CEM is required for movement of engines or major sub-assemblies by a unit and prior to direct coordination between units and other MAJCOM CEMs. Prior coordination with the AFRC CEM and receiving unit is required before scheduling of Reserve airlift support (RAS). Timely and accurate Comprehensive Engine Management System (CEMS) updates by each unit are required for all engine actions.

18.30.4.2. (Added) DPEM Funded Engines. An AFRC engine control number is required for each depot turn-in. This control number must be entered by the unit as part of the CEMS transaction initiating the turn-in and resupply actions. AFRC will issue this number via telephone or email to allow discussion of the current unit status, replacement options, and required actions. Engine control numbers will be issued only by the CEM or alternate. To speed response time to units in some cases, HQ AFRC engine functional

managers for the affected engine will coordinate the issuing of a control number. For all engine movements that expend DPEM funds, units will be issued a ten-digit control number, beginning with the letters "AFR" (Example: AFR981101A). The following information is required when requesting an AFRC engine control number for DPEM funded work (primarily 2LM inputs):

18.30.4.2.1. (Added) Engine Type.

18.30.4.2.2. (Added) Unit.

18.30.4.2.3. (Added) Engine Serial Number.

18.30.4.2.4. (Added) How MAL Code.

18.30.4.2.5. (Added) Reasons for Removal.

18.30.4.2.6. (Added) Engine TSO and/or time since last 2LM visit (MDS dependent).

18.30.4.2.7. (Added) QDR yes/no and details (QDR number, when received by unit).

18.30.4.2.8. (Added) FOD yes/no. If yes, contact NAF for FOD control number.

18.30.4.2.9. (Added) Unit point of contact.

18.30.5. (Added) AFRC Engine Guidance for All Other Engine Movements. All engine movements, on base and off-base, between AFRC units and other MAJCOMS, require an AFRC engine movement control number prior to transportation system actions. These movements may be for such actions as command redistribution of assets, stock level adjustments, warranty work by other than 2LM facilities, movements' to/from Engine Regional Repair Centers (ERRC), deployments, and others. In some cases, the HQ AFRC functional manager for the affected engine may coordinate the issuing of a control number to speed response time to the unit, however, issuance of AFRC engine control numbers is the responsibility of the AFRC CEM or alternate. For engine movements that do not expend DPEM money, a ten digit AFRC engine control number will be issued (Examples: TF34098001, TF33398001, P103098001, TF39098001, T561598001, T567098001, P102098001, F108098001, TF33798001, F110098001, T700098001). The following information is required when requesting an engine movement control number for other than DPEM engine movements:

18.30.5.1. (Added) Engine Type.

18.30.5.2. (Added) Unit.

18.30.5.3. (Added) Engine Serial Number.

18.30.5.4. (Added) Destination.

18.30.5.5. (Added) Reason for Engine Shipment.

18.30.5.6. (Added) Unit Point of Contact.

18.30.6. (Added) Engine Status Reporting. If directed by higher Headquarters, units with spare engine levels below authorized WRE are required to report engine status, as required, during the period of time the levels are below WRE or during heighten states of military readiness. When required, the report will be sent directly to the units' NAF with "info" copies to applicable functional program managers at AFRC. Any readiness issues that the NAF can not solve will be forward to the AFRC functional manager with a suggested solution. The following information is required for this report:

18.30.6.1. (Added) Unit/Location.

18.30.6.2. (Added) Spare Engine Type(s) (Report each different type separately).

18.30.6.3. (Added) Spare Engines Authorized.

18.30.6.4. (Added) On Hand.

18.30.6.5. (Added) In Shop.

18.30.6.6. (Added) In Work.

18.30.6.7. (Added) Unit WRE Level.

18.30.6.8. (Added) Ready For Installation.

18.30.6.9. (Added) Awaiting Maintenance.

18.30.6.10. (Added) Awaiting Parts.

18.30.6.11. (Added) Aircraft Holes.

18.30.6.12. (Added) Significant Engine MICAPs/status.

18.30.6.13. (Added) Other Remarks.

18.30.7. (Added) Propeller Status. C-130 units should also report the following propeller status:

18.30.7.1. (Added) Authorized Spare Props.

18.30.7.2. (Added) On Hand.

18.30.7.3. (Added) Built up/RFI.

18.30.7.4. (Added) Comments.

18.31. (Added) **Corrosion Control Program**

18.31.1. (Added) **HQ AFRC/LGM Responsibilities:**

18.31.1.1. (Added) Is the office of primary responsibility (OPR) for the AFRC corrosion prevention program.

18.31.1.2. (Added) Supports the Air Force Corrosion Program Office (AFCPO) by participating in equipment evaluations, corrosion program managers meetings, advisory boards, executive counsel meetings, and field surveys. Coordinates with Air Force Materiel Command (AFMC) on the development and testing of corrosion control techniques and material.

18.31.1.3. (Added) Supports the Coating Technology Integration Office (CTIO) by participating in equipment evaluations, coating system evaluations, and Coating Technology Screening Committee (CTSC) meetings.

18.31.1.4. (Added) Represents AFRC aircraft structural maintenance workcenters at DOD/Air Force conferences and meetings.

18.31.1.5. (Added) Represents the command at corrosion prevention advisory boards (CPAB) for assigned weapon systems.

18.31.1.5.1. (Added) Emphasizes field support for specific weapon system CPAB, by requesting attendance and submission of action items.

18.31.1.5.2. (Added) Supports specific weapon system CPAB during investigations of airframe corrosion problems.

18.31.1.6. (Added) Conducts periodic command corrosion program managers meetings.

18.31.1.7. (Added) Conducts command corrosion surveys at a minimum of three AFRC flying units per year.

18.31.1.8. (Added) Ensures adequate technical training is current and available for aircraft structural maintenance technicians.

18.31.1.8.1. (Added) HQ AFRC/LGQ identifies training requirements to HQ AFRC/DPTF for submission to Air Education and Training Command (AETC) to facilitate course scheduling/attendance.

18.31.1.8.2. (Added) HQ AFRC/LGQ identifies training requirements to Air Education and Training Command (AETC) to facilitate course scheduling/attendance.

18.31.1.9. (Added) Ensures all personnel involved in aircraft maintenance receive corrosion prevention and control training.

18.31.1.10. (Added) Reviews Air Force publications concerning corrosion prevention and control for adequacy and coordination with appropriate agencies.

18.31.1.11. (Added) Develops and issues technical and administrative instructions on the AFRC corrosion prevention and control program.

18.31.1.12. (Added) Stresses the importance of effective corrosion prevention on all affected systems within the command.

18.31.1.13. (Added) Strives to improve communication cross flow on corrosion prevention and control throughout all managerial levels in AFRC.

18.31.2. (Added) **Corrosion Prevention and Control Manager Responsibilities:**

18.31.2.1. (Added) Organizes, directs, and manages the wing/group corrosion prevention program according to AFIs 21-101, *Maintenance Management of Aircraft*, AFI 21-105, *Aerospace Equipment Structural Maintenance*, TOs 1-1-691, 1-1-8, 1-1-689, 35-1-3, applicable weapon system specific -3, -23, and this instruction.

18.31.2.2. (Added) Establishes corrosion prevention and control training for all aircraft and AGE maintenance personnel.

18.31.2.3. (Added) Develops and submits comments or recommendations for improvement of the corrosion control program to HQ AFRC/LGM.

18.31.2.4. (Added) Approves equipment and materials used to support the corrosion prevention and control program.

18.31.2.5. (Added) Submits budget requests for equipment, materials, facilities and manpower which support the unit corrosion prevention and control program.

18.31.2.6. (Added) Supplements AFRC corrosion control directives, as required, to maintain a sound corrosion control program.

18.31.2.7. (Added) When available, attends DOD, Air Force worldwide, and AFRC command corrosion program managers meetings and workshops.

18.31.2.8. (Added) Reviews and supplements, if required, corrosion control workcards for assigned equipment based on mission and location.

18.31.2.9. (Added) Attends the assigned weapon system CPAB or sends designated representative.

18.31.2.9.1. (Added) Coordinates with flightline maintenance (FM) flight chief on new recommendations and suggestions to enhance the unit corrosion prevention program and for submittal to CPAB.

18.31.2.9.2. (Added) Submits CPAB action items to HQ AFRC/LGM to maintain structural integrity of weapon system extend service life and improve repair techniques.

18.31.2.10. (Added) Periodically monitors aircraft washing operations to ensure qualified products and approved processes are used.

18.31.3. (Added) **Aircraft Structural Maintenance (ASM) Supervisor Responsibilities:**

18.31.3.1. (Added) Ensures ASM personnel complete a corrosion inspection after each aircraft wash using AFRC Form 165, Aircraft After Wash Corrosion Inspection Checklist. Upon completion of the inspection, the ASM specialist clears the AFTO Form 781A, after-wash corrosion inspection. File disposition of AFRC Form 165 is according to AFMAN 37-139.

18.31.3.2. (Added) Ensures that only properly trained personnel operate shop corrosion prevention equipment.

18.31.3.3. (Added) Ensures technicians receive adequate training (formal and on-the-job) to accomplish assigned taskings, changes in inspection techniques, and advances in equipment technology.

18.31.3.4. (Added) Ensures no other maintenance is accomplished on the aircraft or equipment during corrosion prevention treatment when hazardous or toxic materials are in use. (Materials that require the use of specialized personal protective equipment.)

18.31.3.5. (Added) Procures materials and supplies to accomplish aircraft cleaning.

18.31.4. (Added) **Flightline Maintenance Supervision Responsibilities:**

18.31.4.1. (Added) Accomplishes a cleanliness inspection of aircraft after completion of the aircraft washes using AFRC Form 164, *Aircraft Wash Cleanliness Inspection Checklist.* Local requirements may be added to the cleanliness checksheet as required to enhance the unit cleanliness program. File disposition of AFRC Form 164 is according to AFMAN 37-139.

18.31.4.1.1. (Added) Upon completion of cleanliness inspection the flight chief clears the appropriate AFTO Form 781A entry.

18.31.4.1.2. (Added) The dock chief may accomplish the cleanliness inspection for isochronal/phase aircraft washes only.

18.31.4.2. (Added) Manages aircraft wash rack to include maintaining equipment used during aircraft wash.

18.31.4.2.1. (Added) Coordinates the procurement of aircraft cleaners with the unit corrosion manager to ensure only qualified products are used during the cleaning operation.

18.31.4.2.2. (Added) Appoints an aircraft wash supervisor for each wash.

18.31.4.2.2.1. (Added) The wash supervisor uses AFRC Form 163, *Aircraft Wash Supervisor's/ Employees' Checklist*, to ensure adequate preparation of the aircraft, training for wash crew, and washing of air-

craft occurs. AFRC Form 163 is completed once during the initial wash training process; thereafter, when work processes, equipment, materials, or conditions change.

18.31.4.2.2.2. (Added) The wash supervisor ensures the facility is clean and equipment is properly maintained and stored at completion of each wash.

18.31.4.3. (Added) Qualifies and trains personnel in correct procedures for aircraft washing and cleaning. It is recommended that personnel assigned as wash supervisors or cleanliness inspectors attend J3AZR/J4AZT2A753 000, Aircraft Corrosion Control, or an equivalent training course approved by HQ AFRC/LGM.

18.31.4.4. (Added) Coordinates the use of adequate wash rack facilities.

18.31.4.5. (Added) Performs washing and cleaning on assigned weapon system using aircraft wash crews.

18.31.4.6. (Added) Units using wash contractors must be thoroughly familiar with contract specifications, applicable technical orders, and inspection acceptance criteria.

18.31.4.7. (Added) Procures and maintains personal protective equipment used during the wash process.

18.31.5. (Added) **Quality Assurance Responsibilities:**

18.31.5.1. (Added) Monitors a minimum of one aircraft washing operation per quarter to ensure only qualified products and equipment are used, assigned wash crews are properly trained and qualified, plans and scheduling has scheduled washes and washes are being accomplished on-time according to schedule listed in TO 1-1-691, and checks aircraft for cleanliness, corrosion and lubrication after washing.

18.31.5.2. (Added) Ensures personnel attend J3AZR/J4AZT2A753 000, Aircraft Corrosion Control, or an equivalent training course approved by HQ AFRC/LGM.

18.31.6. (Added) **Avionics Responsibilities:**

18.31.6.1. (Added) Aircraft avionics systems and instruments are extremely critical for safety of flight and are no less susceptible to corrosion damage. All avionics work sections must be familiar with, and have available for use, TO 1-1-689.

18.31.6.2. (Added) Avionics maintenance personnel are responsible for inspecting and cleaning pins and sockets of disconnected electrical connectors, black boxes, inside equipment drawers, etc., for corrosion. When corrosion damage is beyond the capability of the shop, request assistance from the aircraft structural maintenance work center.

18.31.7. (Added) **General Corrosion Prevention and Control Issues:**

18.31.7.1. (Added) Corrosion prevention and control programs are oriented towards the preventative maintenance concept in controlling corrosion through the maintenance of protective coatings, equipment cleanliness, timely detection, and correct treatment. Prevention is the hub of an effective corrosion control program; therefore, strict adherence to corrosion prevention policies is essential.

18.31.7.2. (Added) It is not economically feasible to treat hardware (screws, nuts, etc.) for corrosion; therefore, replace corroded hardware as required.

18.31.7.3. (Added) Crossflow of information is essential to the program. This instruction authorizes all program managers direct communication with their counterparts (all echelons) on any matter pertaining to the program.

18.31.7.4. (Added) All maintenance personnel, regardless of AFSC, are responsible for detecting and documenting corrosion in the proper maintenance forms. Structural maintenance workcenter evaluates corrosion discrepancies to determine proper treatment or repair.

18.31.7.5. (Added) Corrosive Chemical Substances:

18.31.7.5.1. (Added) A corrosive chemical spill aboard an aircraft is one of the most potentially hazardous situations encountered by maintenance and aircrew personnel. When a chemical leak or spill occurs aboard an AFRC aircraft, immediately notify the hazardous material spill response team. Flightline maintenance personnel annotate the aircraft forms as to what type of chemical was spilled and area contaminated.

18.31.7.5.2. (Added) After neutralization, notify structural maintenance to perform a comprehensive corrosion inspection of the affected area.

18.31.7.5.3. (Added) Clean aircraft and equipment soiled with fire extinguishing materials as soon as possible after exposure, according to TO 1-1-691, chapter 9.

18.31.7.6. (Added) Protective Coating:

18.31.7.6.1. (Added) Coating systems provide protection of aircraft and aerospace ground equipment (AGE) surfaces; technical order directives determine protective coating system selection.

18.31.7.6.2. (Added) Maintenance painting is the application of coatings to aerospace equipment where the existing coating system is deteriorated or missing. Maintenance painting is kept to a minimum and must comply with federal, state, and local environmental regulations. Maintenance painting of aircraft accomplished solely for cosmetics is not authorized.

18.31.7.6.2.1. (Added) Total repainting of aircraft at field level is not authorized because of the lack of proper application facilities. When aircraft repainting is beyond the unit's capability, request assistance according to TO 00-25-107.

18.31.7.6.2.2. (Added) Units equipped with environmentally compliant aircraft painting facilities and adequate aircraft structural maintenance manpower are authorized to perform mid-interval overcoating of aircraft. Overcoating is accomplished no earlier than the mid-point of the coating service life. Work processes are coordinated with local environmental and bioenvironmental offices. Units operating in environmentally severe corrosion environments may request to establish a more frequent interval for mid-interval overcoating.

18.31.7.6.2.3. (Added) Complete overcoating of AGE/support equipment is accomplished at intervals not earlier than 5 years. Equipment items with 5 years service life on the coating system will be overcoated on an as needed basis. Assets should be scheduled into the structural maintenance workcenter for protective coating application.

18.31.7.6.3. (Added) To help reduce the volume of coating materials required for application of markings on equipment, units are encouraged to use sign maker equipment.

18.31.8. (Added) **Cleaning and Washing of Aircraft:**

18.31.8.1. (Added) A complete exterior and interior cleaning is accomplished on all aircraft as directed by TO 1-1-691 wash interval and prior to each isochronal or phase inspection.

18.31.8.1.1. (Added) The following entries, as a minimum, are required for an aircraft wash:

18.31.8.1.1.1. (Added) Aircraft taped and prepped for wash. Enter this in the forms on a red X prior to the wash. It is cleared after the cleanliness inspection is successfully completed.

18.31.8.1.1.2. (Added) Document "Aircraft after-wash cleanliness inspection due" in the forms on a red dash This discrepancy is cleared by flight line maintenance supervision.

NOTE: Definition of clean. All references to the condition of clean pertain to the following description: To determine if surfaces are clean, a close visual inspection is accomplished to determine that all residue, oily film, and streaking have been removed. If cleanliness is questionable, a wet or dry, lint free, white towel is wiped firmly across the various surfaces. If excessive soiling of the towel occurs, the surface is not clean.

18.31.8.1.1.3. (Added) Document "Aircraft after-wash corrosion inspection due" in the forms. This entry is placed on a red dash and cleared by the aircraft structural maintenance work center.

18.31.8.1.1.4. (Added) . Document "Aircraft after-wash lube due" in the forms on a red "X". **NOTE:** Proper lubrication is vital in countering corrosion. Lubrication reduces friction and prevents water intrusion in bearing cavities thereby minimizing corrosion and damage. As a result, post-wash lubrication is required on applicable components following normal cleaning cycles (flight line washes) and out-of-cycle washes/cleaning.

18.31.8.1.2. (Added) Units must adhere strictly to scheduled aircraft wash cycles.

18.31.8.1.2.1. (Added) Aircraft wash intervals are established in TO 1-1-691. They are designed to ensure aircraft received regular washes at intervals necessary to maintain airframe structural integrity and reduce the potential for corrosion.

18.31.8.1.2.2. (Added) If organizations know in advance they are scheduled to deploy their weapon system, they must ensure aircraft washes are accomplished prior to mission deployment. Units tasked with no-notice or unscheduled deployments write the aircraft wash up in the affected AFTO Form 781A, using a red dash symbol. The aircraft wash is accomplished upon completion of the mission.

18.31.8.1.3. (Added) Units with aircraft operating near or over salt water perform clear water rinsing according to TO 1-1-691.

NOTE: When an aircraft flies over salt water below 3,000 feet, the aircrew debriefing record and AFTO Form 781A, are annotated.

18.31.8.2. (Added) Because it is a severe corrosion-prone area, aircraft latrine/urinal areas are kept clean**.**

18.31.9. (Added) **Corrosion Prevention and Control Training:**

18.31.9.1. (Added) All aircraft maintenance personnel receive locally developed corrosion prevention, control, and identification training under the direction of the corrosion manager.

18.31.9.2. (Added) Training is completed every 2 years except for personnel in the aircraft structural maintenance workcenter.

18.31.9.3. (Added) The corrosion manager or a designated representative holding a primary AFSC of 2A753 or 2A773 conducts the training.

18.31.9.4. (Added) The corrosion manager, in conjunction with the unit maintenance training manager, develops the training curriculum. Curriculum includes as a minimum:

18.31.9.4.1. (Added) Corrosion identification procedures and techniques using the most current available Air Force aircraft corrosion visual training aids and information.

18.31.9.4.2. (Added) Identify unit specific weapon systems and equipment corrosion prone areas.

18.31.9.4.3. (Added) Reporting and documenting procedures for identified corrosion.

18.31.9.4.4. (Added) Importance of proper selection and use of sealants, corrosion preventive compounds (CPC), and lubricants.

18.31.9.4.5. (Added) Proper selection and use of all cleaning materials.

18.31.9.5. (Added) The corrosion manager, with the assistance of the unit maintenance training manager, periodically updates training material and information.

18.31.9.6. (Added) Corrosion training does not replace normal on-the-job (OJT) requirements of the individuals in any career field.

18.31.10. (Added) **Aerospace Ground Equipment (AGE) and Support Equipment:**

18.31.10.1. (Added) AGE workcenter personnel attend AGE corrosion training.

18.31.10.1.1. (Added) The corrosion manager, in conjunction with the AGE supervisor and unit maintenance training manager, develops corrosion prevention and control training curriculum.

18.31.10.1.2. (Added) Corrosion manager and AGE supervisor determine training interval.

18.31.10.2. (Added) Owning workcenter supervisor is responsible for establishing and enforcing an effective corrosion program on assigned AGE and support equipment.

18.31.10.2.1. (Added) Regular cleaning is the primary method of corrosion prevention. To maintain a sound corrosion control program, AGE and support equipment is cleaned during each periodic or annual inspection or more often as determined by the owning workcenter supervisor.

18.31.10.2.2. (Added) Aircraft structural maintenance and AGE supervisor determines repainting.

18.31.10.2.2.1. (Added) Surface preparation is accomplished to the maximum extent possible by owning workcenter. Work beyond the capability of AGE workcenter is scheduled with the appropriate fabrication section.

18.31.10.2.2.2. (Added) Repainting is accomplished by aircraft structural maintenance workcenter. Stenciling and reflectorization is accomplished by the owning workcenter.

18.31.10.2.2.3. (Added) Complete overcoating of equipment is accomplished at intervals of 5 years. Equipment should not be overcoated solely for the purpose of cosmetics. However, the overcoating interval may be reduced if environmental conditions dictate.

18.31.10.2.2.4. (Added) Personnel at units using paint contractors must be thoroughly familiar with contract specifications, applicable technical orders, and acceptance inspection criteria prior to equipment being repainted.

18.31.10.3. (Added) The use of corrosion preventative compounds (CPC) is encouraged.

18.31.10.4. (Added) Owning workcenter personnel may treat small chips in the paint with CPC. Treat larger chips in the paint according to TO 35-1-3. Surfaces with large amounts of deterioration or chips are treated by the aircraft structural maintenance workcenter. To minimize the contrast between new and aged topcoats, the same type of paint is used.

18.31.11. (Added) **Aircraft Munitions and Support Equipment:**

18.31.11.1. (Added) Owning workcenter supervisor is responsible for establishing and enforcing an effective corrosion program on assigned munitions support equipment.

18.31.11.1.1. (Added) Equipment is cleaned and corrosion treated during each periodic inspection, or more often as determined by the owning workcenter, to maintain a sound corrosion prevention program.

18.31.11.1.2. (Added) Repainting is determined by structural maintenance and munitions supervision.

18.31.11.1.3. (Added) Surface preparation is accomplished to the maximum extent possible by owning workcenter. Work beyond the capability of munitions workcenter is scheduled with the appropriate fabrication section.

18.31.11.2. (Added) The use of corrosion preventative compounds (CPC) is encouraged.

18.31.12. (Added) **Hangar Doors**

18.31.12.1. (Added) Signage requirements: proper signage must meet AFOSH STDs 91-100 and 91-501 minimum requirements. Any signage questions can be address to, AFRC/SEG. The following paragraphs provide additional requirements.

18.31.12.1.1. (Added) Danger sign: A danger sign must be mounted next to all hangar door controls. All sign dimensions and lettering must be IN ACCORDANCE WITH AFOSH STD 91-501. Overall sign dimension 7 in. X 10 in. "Danger" must be printed on top in 1-7/16" white font. Message below "Danger" must contain the following statement using black font, "only qualified personnel authorized by their squadron commander may operate hangar doors." The bottom of sign must have reference to AFOSH STD 91-100, "IN ACCORDANCE WITH AFOSH STD 91-100.

18.31.12.1.2. (Added) Identification of hazards: all areas that pose a potential pinch point or crush area must be marked to ensure no one enters the area during door operation. A 5-ft clear zone must be outlined on the floor with a 3"-wide yellow and black striped line. The area inside the clear zone must have identical diagonal lines IN ACCORDANCE WITH AFOSH STD 91-501. All visible signs must have a 14-in X 20-in. "Danger" sign painted on the floor just outside of the lined area IN ACCORDANCE WITH AFOSH STD 91-501. The sign must be placed so that it can be read when approaching the hazard area. "Danger" must be printed on top with 2-7/8" white font. The message below "Danger" must contain the following statement, "**Hazardous area - stand clear during door operations."**

18.31.12.2. (Added) Operational checkout of doors and safety features: squadron commanders will ensure all building custodians check door operations IN ACCORDANCE WITH AFOSH STD 91-100. Contact local CE or safety office if unsure about any requirements. Submit work orders for any deficiencies noted in door checkout procedure.

18.31.12.3. (Added) Training and documentation requirements: questions on training requirements can be addressed to AFRC/LGQMT. All commanders must enforce hangar door training requirements IN ACCORDANCE WITH AFOSH STD 91-100. All personnel that operate hangar doors (not personnel doors) in the performance of routine duties (maintenance, supply/equipment deliveries, etc.) Must meet minimum training requirements. All personnel who routinely work in hangar facilities, regardless of AFSC or duties, must receive annual awareness training (admin personnel, etc). In addition, local MXG or MXS commanders must enforce the following hangar door training requirements.

18.31.12.4.1. (Added) The maintenance group commander will be the OPR for a wing-level operating instruction outlining responsibilities and procedures for safe operation of hangar doors.

18.31.12.4.2. (Added) Develop standardized hands-on OJT training program for all personnel who operate electric and manual hangar doors. As a minimum qualification training will include hangar door hazards, emergency procedures, and hangar door operations.

18.31.12.4.3. (Added) Develop standardized awareness training for all personnel who work in hangar facilities but do not need to operate electric or manual hangar doors. As a minimum awareness training will include hangar door hazards and emergency procedures.

18.31.12.4.4. (Added) Develop detailed hangar door operating checklists and post checklists at each hangar door control panel. To include step-by-step procedures (i.e. Tail doors, etc.) and list the name of the building custodian.

18.31.12.4.5. (Added) Document hangar door training in the MIS for maintenance personnel with a local course code for each type of hangar door training. For all other personnel, squadron commanders will forward a letter to the MXG listing qualified and authorized door operators for each type of hangar door.

18.31.12.4.6. (Added) Document hangar door training on AF Form 55 or AF Form 797 for non-maintenance personnel who do not have an AF Form 55.

18.32. (Added) **Crash/Disabled Aircraft Recovery Program**

18.32.1. (Added) **General.** The crash/disabled aircraft recovery program applies to all AFRC host and tenant organizations and is designed to recover crashed/damaged or disabled aircraft in a minimum time period consistent with the following consideration (s):

18.32.1.1. (Added) Requirement to open the runway for operational use.

18.32.1.2. (Added) Prevention of secondary damage to the aircraft.

18.32.1.3. (Added) Preservation of evidence for mishap or accident investigations.

18.33. (Added) **Recovery Program Responsibilities.** The host unit commander is responsible for implementing policy and ensuring compliance with established recovery programs. The appropriate LG/OG Squadron Maintenance Officer/Maintenance Superintendent (as determined by the unit) is responsible for establishing a crash/disabled aircraft recovery program. All units (host and tenant) will publish a unit instruction containing specific responsibilities for crashed/disabled aircraft recovery. The following references as a minimum should be used/considered in developing the unit instruction Base OPLAN 32-1, AFM 32-4001, Disaster Preparedness and Planning Operations, AFM 32-4004, Emergency Response Operations, AFRCI 21-101, Aircraft Maintenance Guidance and Procedures, applicable 48 Series AFOSH standards, T.O. 00-105E-9 Aircraft Emergency Rescue Information, and aircraft specific –2 and –3 series technical orders.

18.33.1. (Added) Immediate response by the recovery crew is required during normal operating periods or duty hours. Units must develop emergency recall or mobilization rosters to identify and notify required recovery team members outside of normal operating hours.

18.33.2. (Added) Each host base has overall responsibility for recovery of crashed /disabled aircraft**.** SinceAFRC tenant units are responsible for the condition of their aircraft; the tenant units must be actively involved in training, recovery, and eventual return to operational service of their aircraft. Technical expertise, tech data, MDS unique tools/special equipment, and airframe/system familiarization are the primary contributions AFRC units make to the host aircraft recovery program.

18.33.3. (Added) AFRC host units provide recovery support for all tenant units as established in support agreements (SA). Ensure Crash/Disabled aircraft recovery procedures are coordinated with the following activities, Fire Dept., Safety, CE, Readiness, EOD, Security, Bioenvironmental, Airfield manager, and local off base authorities (as required).

18.33.4. (Added) AFRC host units ensure they are capable to provide and support recovery operations for all base assigned aircraft, to include tenant aircraft. Tenant units are required to participate in host training exercises and equipment inventories. Tenant participation is oriented toward their specific aircraft and equipment expertise. Periodically use tenant aircraft (if different from hosts) for training to ensure proficiency training.

18.33.5. (Added) AFRC tenant units coordinate with the host for crash/disabled aircraft recovery support, training, exercises, and equipment inventories. Develop support agreements (SA) to document requirements.

18.33.6. (Added) AFRC tenant units will not possess recovery equipment that duplicates host base owned assets unless authorized by the allowance standard (AS), or AFRC/LG waiver. When applicable, tenant units coordinate with other collocated tenant units to determine availability of recovery assets to prevent unnecessary duplication. Develop Support Agreements (SA) as necessary to ensure cross utilization of assets.

18.33.7. (Added) Host and tenant commanders are responsible for ensuring sufficient equipment is available for mobility/deployed operations, as authorized in the applicable allowance standards.

18.34. (Added) **Vehicle/Equipment Requirements:**

18.34.1. (Added) The LG/OG (as determined by the unit) determines unit vehicle/equipment requirements, within the limits provided by the allowance standard(s). Vehicle requirements to support crash recovery are identified in the unit instruction/plan.

18.34.2. (Added) Recommended Vehicle/ Equipment includes:

18.34.2.1. (Added) General-purpose truck, with non-tactical radio.

18.34.2.2. (Added) Suitable Trailer and tow vehicle (for storage and transportation of recovery equipment).

18.34.2.3. (Added) Aircraft tow tractor.

18.34.2.4. (Added) Crane (i.e., 20 ton, 50 ton as applicable).

18.34.2.5. (Added) 40 ft. flatbed semi trailer and tractor (with operator).

18.34.2.6. (Added) Light cart.

18.34.2.7. (Added) Tow bars.

NOTE: When base transportation cannot support heavy equipment requirements, such as cranes and/or semi tractors and trailers, units may elect to lease from local suppliers.

18.34.3. (Added) Units will identify recovery support equipment in a local directive to ensure 24-hour availability.

18.35. (Added) **Inspection and Inventory.** Inspect all unit owned recovery equipment to include air bags, manifolds, jacks, slings, shoring, etc. for serviceability before and after each exercise. Periodic equipment inspections are accomplished per intervals established in technical orders or as a minimum

semiannually. Perform operational checks according to applicable directives during exercises and/or inventory reviews. Document inspections in the MIS and on AFTO Form 244's Industrial/Support Equipment Record.

18.36. (Added) **Crash Recovery Supervisor/Team Leader:** (Individual determined by unit)

18.36.1. (Added) Establishes a crash/disabled aircraft recovery program and is OPR for the unit crashed /disabled aircraft recovery instruction. ***NOTE:*** Aircraft recovery efforts may require AFSC specific personnel to accomplish special tasks such as, identifying and handling of classified equipment, life support or egress systems specific tasks, etc.

18.36.2. (Added) Develops course control documents for crash recovery training**.**

18.36.3. (Added) Reviews support agreements and base disaster response plans annually. Provides inputs for change as required.

18.36.4. (Added) Ensures crash/disabled aircraft recovery procedures are coordinated with the following activities, Fire Department, Safety, CE, Readiness, EOD, Security Police, Bioenvironmental, Airfield manager, and local off base authorities (as required).

18.36.5. (Added) Ensures sufficient personnel/teams are trained to support crash/disabled aircraft recovery operations. This includes:

18.36.5.1. (Added) Basic equipment operation (i.e. light carts, generators, etc.).

18.36.5.2. (Added) Familiarization with any unique characteristic for assigned aircraft; (i.e., F-16 uses hydrazine to fuel emergency power unit, C130 depleted uranium used as ballast, aircraft composites, etc.)

18.36.5.3. (Added) The use and wearing of personnel protection equipment (PPE) as determined by the base Bioenvironmental Engineer (BEE).

18.36.5.4. (Added) Unit possessed MDS composite hazard familiarization training.

18.36.6. (Added) Ensures special qualifications for personnel are identified and documented. Determines necessary individual team member qualifications for equipment operations. (i.e. towing, jacking, support equipment, etc.).

18.36.7. (Added) Ensures adequate support equipment for recovery (i.e., bags, slings, manifolds, tow bars, dunnage/shoring, etc.) is serviceable and available.

18.36.8. (Added) Semiannually conducts/participates in training exercises. Coordinates with the base Readiness office before exercises.

18.36.9. (Added) Coordinates with unit QA weight and balance manager when weight and center of gravity (CG) conditions are unknown.

18.37. (Added) **Recovery Team Qualifications:**

18.37.1. (Added) All team members will be qualified in basic crash/damaged aircraft recovery operations.

18.37.2. (Added) All qualifications are recorded in CFETP, AF Form 797, or Management Information System (MIS) as applicable.

18.38. (Added) **Training Requirements:**

18.38.1. (Added) All team members are trained in recovery procedures according to this instruction, and unit developed training guide.

NOTE: A sample training guide to aid units in developing their training plan is available on the AFRC LGM web page.

18.38.2. (Added) Initial training for all recovery team members is comprised of both academic and hands on training/exercises and should include actual lifting of an aircraft. Aircraft lifting exercises can be accomplished by using a unit owned aircraft, utilizing training hulks at AFRC owned CLSS training sites, or participating with other organizations possessing training assets. The MDS of the training aircraft is determined by the crash recovery supervisor/team leader, however, it is recommended that the team chief make an effort to vary the types of aircraft used for training.

18.38.3. (Added) Recurring training is required at least annually after recovery team members receive initial training and is comprised of both academic and hands on training/exercises. Document all training conducted.

18.39. (Added) **Environmental, Safety, and Health Hazards** : The key for a developing a safe and effective crash recovery program is communication and coordination. The unit maintenance crash recovery OPR must ensure the BEE is consulted and directly involved in determining personnel health hazards, training required, and appropriate levels of Personnel Protective Equipment (PPE). **NOTE:** There are two distinct phases of an aircraft mishap--initial response and recovery. Initial response teams face the probability of an aircraft fire. As the composite material burns, gases, vapors and solid particles are released into the smoke plume. Recovery team members may be exposed to fibers and respirable/inhalable dusts as aircraft parts are moved around the site or modified by cutting, breaking, twisting, or hammering. Personnel tasked to participate in crashed or post crash response, recovery, maintenance, and/or clean up operations must be aware of all issues that may be involved. Units must insure local policies and procedures for handling crash damaged composites are addressed; to include training and personnel protective equipment (PPE).

18.40. (Added) Crash Recovery Terms:

18.40.1. (Added) Damaged Aircraft. For the purpose of this instruction, an aircraft that cannot be removed under its own power or towed while supported by its own undercarriage without sustaining secondary damage.

18.40.2. (Added) Disabled Aircraft. For the purpose of this instruction, this is an aircraft that cannot or should not be moved under its own power, but can be towed using its own undercarriage.

18.40.3. (Added) Crashed Aircraft. For the purpose of this instruction, an aircraft unable to return to designated or alternate field or missed landing resulting in major or total destruction of the aircraft.

Attachment 10 (Added)

AFI 21-101/AFRC SUPPLEMENT RECOMMENDED CHANGES (FORMAT)

A10.1. (Added) Unit:

A10.2. (Added) Dated:

A10.3. (Added) Reference: Chapter, paragraph, page.

A10.4. (Added) Proposed Correction: (How you feel it should read)

A10.5. (Added) Justification: (Rational)

A10.6. (Added) Urgency: (Need immediate attention, should be addressed at next update)

A10.7. (Added) Unit POC: (Name, office symbol, DSN)

A10.8. (Added) MXG/CC Signature:

A10.9. (Added) 1st Endorsement: NAF/LG or designated representatives concurrence with recommended change: (Concur/Nonconcur) or make recommendation.

A10.10. (Added) Urgency: (NAF Position)

A10.11. (Added) NAF/LG Signature:

JAMES E. SHERRARD III, Lt General, USAF
Commander